

# Word-final /r/ and word-initial glottalization in English-accented German: a work in progress

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In Standard Southern British English, word-final /r/ is normally not articulated, as in *cider* /'saɪdə/. However, /r/ can occur in connected speech if the following word starts with a vowel [1], as in *cider apples* /'saɪdəɹ 'æpəlz/. In German, an abrupt glottalized onset to phonation is frequent in front of word-initial vowels [2], e.g. *jeder Abend* (*every evening*) /'je:ɪdə 'ʔa:bənt/, in English this is less frequent and more likely to occur at phrase boundaries and before pitch-accented words [3]. The interplay between external sandhi and glottalization is not clear: glottalizations are supposed to take place in absence of external sandhi, but articulatory gestures related to both phenomena can co-occur in a similar phenomenon, with word-final /r/ [4]. Previous investigations have shown that glottalizations are transferred in language learning [5], while the transfer of external sandhi from native to second language speech has been seldom investigated and with conflicting results [6].

We present the method and development of an ongoing study on /r/-sandhi and glottalization in English-accented German compared to English and German. By means of ultrasound tongue imaging we investigate word-final /r/ followed by a word-initial vowel, and the occurrence of glottalizations in the acoustic signal at the resulting word boundary. Accent and phrasing is also varied in the speech material.

In the present study, native English and native German speakers read sentences in both languages. Each sentence contains two subsequent words with  $W_1$  ending with /r/, /n/ or a high vowel, and  $W_2$  starting with a low vowel. Sentences are constructed with and without a phrase boundary between  $W_1$  and  $W_2$ , and with  $W_2$  accented and deaccented, thus producing four possible sentence types. We formulate the following hypotheses:

1. In the English speakers' productions, glottalizations are most frequent in the accented post-boundary condition, and sandhi is most frequent in the deaccented phrase-medial condition.
2. Sandhi is blocked by phrase boundaries, not by glottalizations, overlap between glottalization and sandhi can occur in phrase-medial position.
3. English natives transfer the extent and nature of external sandhi and glottalization in their native language to their German productions.

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