

Adventures in /ʔ/

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The glottal stop is an interesting phonetic segment because it occurs in most languages but in varying functions. Some languages use it as a prosodic marker, others use it as a phoneme, and for some languages (such as German), opinions differ as to whether it has phonemic status or not. Moreover, in German, the glottal stop has recently gained an additional function (including a graphemic representation) in gender-fair plural forms (*Spion*innen*, Engl. ‘spies’) to distinguish those from female plural forms (*Spioninnen*, Engl. ‘(female) spies’). On this backdrop, the glottal stop provides an interesting testbed for various foundational issues in Laboratory Phonology.

The glottal stop in Maltese (a Semitic language) is particularly interesting, since it not only has a singleton-geminate contrast but also appears as a marker on vowel-initial words (as in English). For singleton-geminate distinction, the glottal stop relies less on duration and more on secondary cues, which are minimal for oral stops. Such findings question the viability of features as units of perception. Turning to the distinction between epenthetic (/ʔors/ → [ʔors] Engl. ‘bear’) and lexical glottal stop (/ʔorti/, Engl. ‘court’), a production study finds no reliable phonetic cues to distinguish between these two. Perception studies indicate that the epenthetic glottal stop is used as a cue to prosodic structure (indicating interactions between segmental and prosodic processing), while the lexical glottal stop contributes less to lexical activation than oral stops.

The glottal stop also offers opportunities to investigate to what extent graphemic representations influence lexical access. To that end, we used a visual-world eye-tracking paradigm to track lexical activation when an initial segment was deleted or not. This initial segment could be a Maltese glottal stop (grapheme: ‘q’), a German /h/ (grapheme: ‘h’) and a German glottal stop (no grapheme in initial position). If orthographic-phonological mismatch would hinder lexical access (Ziegler, 2018), the reduction of the German glottal stop should be easier to digest for listeners. In contrast, we observed comparable deletion costs for all three cases. We also tested whether the recent genesis of a grapheme for the glottal stop in German gender-fair plural forms impacts listeners’ appreciation of the segment. According to Ziegler (2018), a grapheme establishes a pre-lexical category that should lead to generalizable knowledge so that listeners should be able to apply to uncoded glottal stops in German. However, this is not the case; German listeners describe the glottal stop in gender-fair forms as a segment but perceive the glottal stop in other contexts as a prosodic marker.

The importance of the glottal stop for German for lexical access raises the question to what extent L2 learners (who are never “told” about /ʔ/) acquire it, especially when neither /ʔ/ or /h/ are in the L1 inventory (e.g., for Italian). We find that the glottal stop is acquired surprisingly well and to a similar degree as /h/. This is rather surprising, given the well-documented orthographic effects in L2 acquisition. Moreover, the two glottal segments /ʔ/ and /h/ are distinguished well-above chance in production, but not distinguished for lexical access. This indicates another dissociation between explicit sound perception and phonological processing for lexical access, in line with dual route models of speech perception (Scott et al., 2009).

References:

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