



How phonemic and non-phonemic glottals co-exist: evidence from Hawaiian

While studies have examined the linguistic conditions that affect the implementation of phonemic glottal stops (e.g. DiGànio 2012, Málisz et al. 2013), there has been less focus on the phonetic implementation of phonemic and non-phonemic uses of glottalization within the same language. This study examines both phonemic and non-phonemic glottal elements in Hawaiian conversational speech to determine whether prosodic factors influence how these two types of glottal elements are employed within the same language. Phonemic glottal stops were only produced as a full glottal closure 7% of the time. Creaky realizations are more extensive when there are identical flanking vowels (e.g. /hoʔ okahi/ 'one), and they begin earlier in the [VʔV] sequence when the /ʔ / is in word-initial position (e.g., /kaʔʔulu/ 'the breadfruit'). A prosodic analysis shows that full closures were more likely in prosodic word-initial position (e.g. {ki:} {ʔa.ha} 'cup'). For non-phonemic glottalization at word boundaries, the main factor conditioning the presence of a glottal element was being followed by single-vowel grammatical markers (e.g. [nui#o] 'big POSS').

For the phonemic glottal stop, a full closure may help indicate prosodic word boundaries, which could resolve cases where stress assignment does not disambiguate possible parses, e.g., {(ho:)}{ʔo.(a.ka)} or {(ho:ʔo)}{(a.ka)}, 'to open'. The preponderance of non-phonemic cases in the content word+single vowel grammatical marker environment may be to ensure that a critical single-vowel grammatical marker is not perceptually subsumed by the preceding vowel. Moreover, non-phonemic glottalization most often occurs where a content word that might begin with a phonemic glottal stop would not be expected, which may allow for both types of glottal elements to co-exist in the language without perceptual confusion or segmentation difficulties.

(joint work with 'Oiwi Parker Jones)

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