

On Glottalization in German

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Glottal stops and glottalization have attracted increasing interest of phonologists and phoneticians, probably due to their hardly definable, almost chameleon-like behaviour.

Several phonetically oriented studies have reported a huge variability of glottal stops and glottalizations in their acoustic realization. This inter- and intra-speaker variability has been observed in a number of languages and shown to be dependent on several parameters such as e.g.: phrasal position, accented vs. unaccented syllable, segmental context, speech rate, dialect, speaker's gender, and others (cf. e.g. , Pierrehumbert 1994, Redi & Shattuck-Hufnagel 2001, Umeda 1978).

In the present paper we investigate glottal marking of vowel-initial German words in dependence on speech rate, word type (content vs. function words), word accent, phrasal position and following vowel. The material investigated consists of several speeches by Konrad Adenauer, Thomas Mann and Richard von Weizsäcker.

The investigation shows that the marking of vowel-initial words in German is realized (a) in a rate-dependent manner ranging from glottal stop insertion via glottalization to no marking at all. The strength of marking is influenced by the intervening variables of (b) word type, (c) stress and (d) phrasal position: content words are more strongly marked than function words, and stressed initial vowels more strongly than unstressed ones. Position within the phrase did not vary with speech rate and affected the realization only slightly. Finally, it could be shown that glottal marking is also dependent on the very nature (i.e. tongue height) of the marked vowel itself. This finding has an important implication for prosodic research, as it shows that glottal stops/glottalizations are not only conditioned by prosodic phenomena but depend on the segmental level as well, cf. also Krech (1968). It remains to be answered by future research why glottal stops occur more frequently before low vowels and how this cooccurrence is to be understood in terms of the interplay of segmental and prosodic levels of representations.

Finally, the present study provides important material to phonological approaches on German prosody showing that the present accounts of glottalization and glottal stops need to be extended by taking into consideration the complexity of phonetic evidence.

349 words

References:

- Krech, Eva-Maria (1968). Sprechwissenschaftlich-phonetische Untersuchungen zum Gebrauch des Glottisschlageinsatzes in der allgemeinen deutschen Hochlautung. Basel: Karger.
- Pierrehumbert, Janet (1994). Prosodic effects on glottal allophones. In: Fujimura, O. & M. Hirano (eds). *Vocal Fold Physiology 8: Voice Quality Control*. San Diego: Singular Press, 39-60.
- Redi, Laura & Stefanie Shattuck-Hufnagel (2001). Variation in the realization of glottalization in normal speakers. *Journal of Phonetics* 29, 407-429.
- Umeda, Noriko (1978). Occurrence of glottal stops in fluent speech. *JASA* 64, 81-94.