

## The distribution of glottalization in the languages of the Caucasus: Typological and phono-statistical arguments

category: either oral or poster

In the discussion of common properties of the languages of the Caucasus and its surrounding areas (e.g. Tuite, 1999), the occurrence of glottalized consonants (ejectives) is undisputed as a common property of Caucasian languages (cf. Maddieson, 2005). However, investigating the area in more detail, Stilo (1994) argues for a gradient areal distribution of various morphosyntactic and phonological features, which define the Caucasus linguistically as a transitional zone. Such gradient notions are of course well-known from dialectometry (e.g. Goebel, 1982). Similarly, we assume that glottalization is not of the same quality in all Caucasian language (cf. Grawunder et al. 2008, Maddieson, 2005), but shows gradient distributions throughout the area. In this paper, we investigate the detailed characterization of glottalization in Caucasian languages, including both the distribution of glottalization within each phoneme system, and the frequency of glottalization in the phonotactic structure of each language.

Specifically, two supplementary approaches have been taken. First, we compiled a typological survey of the phoneme systems of the languages spoken in the area, based on available anthologies, sketches and grammars (e.g. Alekseev, 1999; Kibrik & Kodzasov, 1990; Job, 2004, Gudava 1964). On this basis, a sample of 55 languages was collected in which the systemic embedding of ejectives in context of other contrasting obstruents is investigated. Various other characteristics, like cluster constraints, the occurrence of gemination, fricative ejectives or lateral affricates (among others), are considered as co-factors.

Our second approach to investigate the distribution of ejectives uses a frequency analysis of their occurrence in the lexicon. For this part of the research, we use data from the *Intercontinental Dictionary Series* (IDS) provided by the MPI EVA in Leipzig ([lingweb.eva.mpg.de/ids](http://lingweb.eva.mpg.de/ids)). In this resource, a sample of over 50 languages of the Nakh-Daghestanian family (including standard and non-standard varieties) is available, containing approximately 1100 - 1300 lexical entries per language in a consistent phonological transcription (collected by M. Khalilov). For each of these lexical entries, we coded the occurrence of ejective and pulmonic stops in initial, medial and final position. The resulting frequencies of occurrence are used to characterize the usage of glottalization in each language. For comparison, the same frequency analysis has also been applied to electronic dictionaries as available for the languages Avar, Tsez and Lezgi. The two frequency distributions show a fairly good correlation between the different sets of data, IDS and dictionary.

Given this data, we investigate the relation between the detailed characterization of glottalization and various general factors, like genealogical relationship, geographical location and the sociolinguistic situation in which each language is used. Preliminary results show, for example, support for the notion of a compact group of Avar-Andic languages, which show in a few specific articulatory places a close to equal frequency of glottalized and non-glottalized (plain/aspirated) obstruents. In our presentation, we will focus on the gradient geographical distribution of glottalization in the Caucasus, and search for fade-in/out effects on a solid empirical basis.

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