

Ejectives in Georgian, German and English: articulation, acoustics and emergence

Adrian P. Simpson & Nato Sulaberidze
Friedrich-Schiller-Universität Jena

Ejectives are a regular phonological feature of around 15-20% of the world's languages (Ladefoged 2005, Maddieson 2013). They also occur in German and English. In German, ejectives are an epiphenomenal product of final fortis stops in temporal overlap with the onset glottalisation of a vowel-initial syllable (Simpson 2014, Brandt & Simpson 2021). In English, ejectives make up part of the complex sociophonetic allophony of word-final stops, and there is a growing body of evidence that their occurrence is growing in frequency (Simpson 2017).

Using data from dual-channel electrolaryngography, intraoral pressure and rtMRI we will examine similarities and differences in the production mechanisms of ejectives in the three languages. The production of epiphenomenal ejectives in German provides a possible historical path for the emergence of ejectives. At the same time, data from Georgian indicate that the production of regular ejectives in certain utterance contexts adopts strategies akin to those observed for epiphenomenal ejectives in German. However, production data from English raise intriguing questions. High intraoral pressure values in utterance-final ejectives suggest that aside from any pulmonic component, supraglottal volume is also being reduced (Simpson & Sulaberidze 2022). However, recent rtMRI data provide little evidence of active larynx displacement (Price et al. 2022), suggesting that another strategy of reducing supraglottal cavity volume may be at work.

References

- Brandt, Erika and Adrian P. Simpson. 2021. The production of ejectives in German and Georgian. *Journal of Phonetics*, **89**:101111.
- Ladefoged, Peter. 2005. *Vowels and consonants: An introduction to the sounds of languages*. Blackwell, Oxford, 2nd edition.
- Maddieson, Ian. 2013. Glottalized consonants. In Matthew S. Dryer & Martin Haspelmath (eds), *The world atlas of language structures online*, chapter 7. Max Planck Institute for Evolutionary Anthropology, Leipzig.
- Ogden, Richard. 2009. *An introduction to English phonetics*. Edinburgh University Press, Edinburgh.
- Price, Lavinia, Marianne Pouplier & Phil Hoole. 2022. Kehlkopfanhebung in englischen wortfinalen Ejektiven: eine Echtzeit-MRT-Studie. *P&P 18*, Bielefeld.
- Simpson, Adrian P. 2014. Ejectives in English and German – linguistic, sociophonetic, interactional, epiphenomenal? In Chiara Celata & Silvia Calamai (eds.), *Advances in sociophonetics*, 187–202. Benjamins, Amsterdam.
- Simpson, Adrian P. 2017. Are ejectives on the increase in English? Evidence from a single speaker. In *Workshop on Speech Perception and Production across the Lifespan*, London.
- Simpson, Adrian P. & Nato Sulaberidze. 2022. Ejectives in English: elicitation und analysis. *P&P 18*, Bielefeld.