UNIVERSITÄT BIELEFELD

LINGUISTIC CREATIVITY
SFB 1646 in Communication

Project A02: Creating novel phonetic representations across varying communication settings

Project leaders: Joana Cholin, Petra Wagner, Sina Zarrieß

Project Summary

In speech, deviations from default or canonical realisations of phonemes, syllables or larger units are extremely common and are often explained by speakers' balancing of articulatory ease and listener as a function of varying communicative and linguistic contexts. In this project, we are specifically interested in the creative flexibility of the processes and factors involved in such productions, including those leading to novel forms, e.g., syllable structures or phones that are not considered to be part of the language's grammaticalised inventory of phones, syllables, or syllabifications. The project will address the adequate modelling of these phenomena within psycholinguistic and computational models of speech production. The dual-route account (Cholin et al. 2011, Laganaro 2019) will serve as framework for our investigation into the procedures underlying creative phonetic encoding. We will particularly investigate whether creatively constructed, novel, or non-canonical phonetic forms can be selectively elicited and modelled in different interactive and linguistic contexts by testing specific hypotheses of the dual-route account.

The project will employ a large set of corpus linguistic, phonetic, quantitative and computational methods. With respect to corpus studies, we will deploy a novel combination of differentiated methodological approaches. We will rely on methods for eliciting spontaneous but still controlled speech, and we will conduct a number of pilot studies to determine optimal ways to do this. We will develop a novel pipeline of ASR systems to gather canonical and narrow phonetic transcriptions of our speech recordings in a way that maximally relies on automated approaches rather than manual transcriptions. The data thus obtained will be subject to statistical modelling, which will rely on state-of-the-art approaches such as generalised linear mixed models. Additionally, we will develop new neural language models to simulate pronunciation variation in varying contexts to inform psycholinguistic production models.

Open Positions

PhD position 1 (65%)
Profile: The ideal candidate has a master in linguistics or a related field, with a background in experimental psycholinguistics and interest in computational modeling.
Main research focus within the project: Focus of the PhD thesis will be in the domain of modeling pronunciation variation with (computational) psycholinguistic models.

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PostDoc position 2 (100%)

Profile: The ideal candidate has a PhD in linguistics with a focus on phonetics or speech processing. The ideal candidate has experience in running phonetic experiments as well as a background in statis-tical/computational/psycholinguistic modeling.

Main research focus within the project: Experimental research on creative phonetic variation and work on computational and/or psycholinguistic modelling of speech processing.

For further information please contact the project leaders:

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