

Microvariation in stop realization as a consistent regional feature in Danish

This poster presents research in which microvariation in the realization of stop consonants in Danish is mapped on the basis of multiple acoustic parameters. Previous research (Puggaard 2018) has indicated consistent microvariation in the realization of /t/ in both Voice Onset Time (VOT) and the extent of affricated release on the basis of dialect area. The current poster expands on that research, investigating regional variation in the realization of all Danish stops /b,d,g,p,t,k/. This study focuses on the Jutland peninsula, using a subset of a very large audio corpus (5,000+ hours) of older stages of dialectal Danish (Andersen 1981). The subset consists of recordings from the period 1971-1976 of speakers who were elderly at the time of recording. Recordings of speakers from around 200 different parishes were used.

In a highly influential study, Lisker & Abramson (1964) proposed that phonological stops generally cluster into the neat categories of pre-voiced, voiceless and aspirated. While these three main types of VOT provide a useful typological classification, later studies (e.g. Cho & Ladefoged 1999) have indicated that VOT patterns are continuous rather than categorical. Likewise, there are other factors than VOT that may provide important cues to stop distinctions, and for some languages such as Swiss German (Kraehemann 2001), VOT plays no role at all in the distinction between fortis and lenis categories. Major differences in phonetic cues for stop distinctions have thus been found across languages; the current study takes a microtypological perspective and investigates how the phonetic cues differ within a single language.

In this study, microvariation in stop realization is measured on the basis of both VOT and other relevant acoustic features, such as the center of gravity and development of affrication noise throughout the aspiration phase of relevant stops. There are consistent patterns of variation in both VOT and the spectral pattern of the aspiration phase – Southern dialects have longer and noisier stops than Northern ones, and these differences are continuous – but also in the patterns of reduction and lenition. These patterns of variation cannot be explained on the basis of physiological considerations; rather, they must be learned by the speaker. This has implications concerning the level of phonetic granularity that is assumed to be relevant in the perception and production of language, as well as the level of phonetic granularity assumed to be relevant in imparting social meaning, such as that used in communicating and perceiving information about the geographical origin of oneself and one's interlocutor.

References

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