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Has she sent or lit an email? Preliminary results of a Danish and Norwegian categorical perception study

Abstract:
Danish children are delayed in acquiring their native language possibly because of its phonology (Bleses, Basbøll & Vach, 2011). Additionally, phonological reduction present in the Danish language results in word forms that are difficult to distinguish from each other (Basbøll, 2005). Here, we determine the potential impact of these phenomena on the phonological processing of adult Danish native speakers. Specifically, we ask whether Danish native speakers may either have under- or overspecified phonological representations compared to, for instance, Norwegian speakers.

First, in a nonword repetition experiment, we found that Danish speakers perform better at repeating “Danish” than “Norwegian” nonwords, whereas Norwegian speakers were equally good at repeating nonwords in both “languages” but worse than Danish speakers at “Danish”. Second, we carried out a categorical perception experiment with a paradigm previously used for English (Connine, Blasko & Hall, 1991 and Szostak & Pitt, 2013). In their experiments, they showed that the participants rely on context when the target words begin with an ambiguous sound on the [d]-[t] or [s]-[ʃ] continuum. Moreover, this bias was more pronounced when the semantically disambiguating word was separated from the target word by a smaller number of syllables compared to when the distance between the target and disambiguating word was larger. In our study, if Danish speakers have less differentiated phonological representations, they will rely on context to a larger extent and thus this distance will have no effect on their responses. For Norwegian speakers we expect results similar to the ones of English speakers.

We constructed sentences that were either biased towards the target words sendt (1) or tændt (2). We manipulated the initial phoneme to a five-step continuum with a clear [s] at one end and a clear [ts] at the other end and with three intermediate steps. The distance between the target and the disambiguating word was either one (NEAR condition) or 5-7 syllables (FAR condition).

(1) Hun har sendt en (imponerende klar) mail.
(2) Hun har tændt en (imponerende klar) lampe.

The participants were instructed decide whether they heard sendt or tændt and to click on the corresponding word on the screen. Preliminary analysis showed that both Danish and Norwegian native speakers rely on context when presented with ambiguous phonemes. However, unlike the previous findings, there was no context by distance interaction effect either for Danish speakers or for Norwegians. Moreover, contrary to Danish speakers, context
had an effect on Norwegian speakers even at the distinct end-steps. Further analysis on the full dataset and a follow-up experiment with slightly different instructions will shed light on the current preliminary findings.

**References:**


