

A pilot study of L2 Learners perception of the Danish quantity contrast in disyllabic words with or without assimilated schwa in the second syllable

It is well known that certain aspects of Danish pronunciation are difficult for L2 learners of Danish to acquire. Striking difficulties can be found at both the segmental and the prosodic level. The current study is a first look at learners perception of vowel quantity in interaction with presence or absence of syllable reduction in a following unstressed syllable.

Apparently many learners, especially but not exclusively at the beginners level, do not seem to notice the quantity of vowels in Danish, i.e. the fact that Danish distinguishes between long and short vowels.

There may well be several reasons for this. Interference from L1 likely plays a role: many languages do not have a short/long distinction, and in many languages where there is (something that could be regarded as) a quantity difference, it is also accompanied by other differences, e.g. a fortis/lenis difference, a difference in vowel quality, or, as in Swedish, coupled with a complementary difference in the quantity of the following consonant. The quantity difference may thus be signalled in a more 'sparse' way in Danish compared to many other languages.

Another factor that may come into play is the fact that the quantity difference in Danish is not always realised in the same way phonetically. It is part of a system of prosodic features that are used to upgrade and downgrade the weight of syllables in relation to each other. The features I am thinking of here are:

- Stress
- Stød
- Quantity
- Syllable reduction*

(* Although syllable reduction is not commonly regarded as a prosodic feature, it interacts in a complex fashion with the first three features, in a way that makes it meaningful to look at these four features together.)

The way in which the quantity difference is expressed phonetically is affected both by the degree of stress, presence or absence of stød and whether there is reduction of a following (unstressed) syllable or not. These factors are likely to complicate the learning of the quantity feature.

The topic of the current study is the interaction between quantity and syllable reduction of the following syllable.

The following word pairs illustrate the variation in the realisation of the quantity contrast in disyllabic words where the second unstressed syllable 1) can not undergo assimilation, 2) could undergo assimilation but is pronounced without assimilation, 3) second unstressed syllable is assimilated:

1. Assimilation not possible: *kiler* [ki:lʌ] – *kilder* [kiʌ]
2. No assimilation of second syllable: *kile* [ki:lə] – *kilde* [kilə]
3. Assimilation of second syllable: *kile* [ki:il] – *kilde* [ki:ll]

Presumably the quantity contrast should present itself the the same way in type 1 and 2, but both structures are included in case there turns out to be subtle differences that may not be obvious to native Danish listeners, but which could play role for non-native listeners.

Word pairs are presented to listeners in an AB-test where A and B tokens are spoken by two different speakers. The task of the listener is to judge whether the B word is a proper repetition of the A word i.e. the same word or not. This is to invoke a linguistic judgement of 'same word' or 'different words' rather than 'same sound' or 'different sounds'.

All types are presented in matched and unmatched pairs, and types 2 and 3 are also presented in phonologically matched and unmatched pairs across the two types: thus *kile* [ki:lə] vs. *kile* [ki:il] represents two different pronunciations of the same word, whereas e.g. *kile* [ki:lə] vs. *kilde* [ki:ll] represent two different words. In both cases the first instance is a word realised with a schwa vowel in the second syllable, and the second instance is a word where the unstressed schwa has been assimilated to another segment.

The expectation is that perception of the contrast will be easiest for type 1 and 2, more difficult for type 3, and most difficult when types 2 and 3 are combined.