

Quantity in ten Swedish dialects in Northern Sweden and Österbotten in Finland

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Abstract

The paper presents duration data based on V:C and VC: sequences in isolated words in ten dialects spoken in the north of Sweden (Norrbotten and Västerbotten) and Finland (Österbotten). Data are given as ratios of phonologically short to long vowels and consonants (V/V: and C/C:), and vowels to following consonants (V/C: and V:/C). Compared to Central Standard Swedish all the dialects employ greater durational differences to maintain distinctions of quantity, although the degree to which they differ varies between them. Generally, the further to the north and to the east, the greater the differences between the dialect and Central Standard Swedish.

1 Introduction

Some Swedish dialects still have traces of the Old Swedish quantity system in which long and short vowels and consonants could be combined into sequences such as VC, V:C, VC: and V:C: in stressed syllables. However, although the VC and V:C: patterns still survive, especially V:C: occurs in very few dialects. The majority of Swedish dialects only have the two complementary types V:C and VC:. These patterns, distinguishing a sequence with a long vowel followed by a short consonant from a sequence with a short vowel followed by a long consonant, is the focus of this study.

Research on quantity in Swedish dialects has since long focused on the *phonologic* aspects, and in particular how the present more restricted system has developed from the older more diversified system through the changes known as the quantity shift. Important contributions to our understanding of these changes have been given by Hesselman (1901, 1902), and more recently, Riad (1992).

Studies of *phonetic* aspects of quantity in Swedish dialects are more rare. Nyström (2000) has presented data from Älvdalen demonstrating how the overlong V:C: pattern existing in this dialect forms a category well separated from V:C and VC:. Another example is a study of Scania dialects by Hansson (1969) which includes duration data from the Östra Ingelstad area. Most of the phonetic research, however, has been based on Standard Swedish, and Central Standard Swedish in particular. A phonologic-phonetic study of quantity with speakers from the Stockholm area by Elert (1964) is the standard reference work. In addition to detailed duration data on vowels and consonants in different contexts, it includes ratios calculated on the basis of the primary duration data. Thus ratios are given of phonologically short to long vowels and consonants, V/V: and C/C: respectively, as well as ratios of vowel to immediately following consonant, V/C: and V:/C in stressed syllables. An experimental study by Engstrand (1983) represents a different approach, testing alternative hypotheses about quantity distinctions as differentiated in terms of durational or spectral properties.

The study to be reported was undertaken within the framework of SWEDIA 2000. The purpose was to describe durational patterns of a subset of the SWEDIA material as a basis for further analyses with a quantity typology for Swedish dialects as the ultimate goal.

2 Method

The material was restricted to ten isolated words, all of which were minimal CV:C - CVC: pairs like *tak* 'roof' - *tack* 'thanks' collected as part of the SWEDIA database. The words contained short or long variants of the vowels /i, y, u, o, a/ followed by either /t/ or /k/. They were produced by three male speakers from each of the dialects spoken in Bjurholm, Burträsk, Vilhelmina, Arjeplog, Överkalix, Nederkalix, Nederluleå and Piteå in Norrbotten and Västerbotten (in Sweden), and from Vörå and Närpes in Österbotten (in Finland). Each speaker usually produced each word three times. Vowel and following consonant durations were measured from the digitized recordings. As a measure of the strength of the quantity distinction for vowels and consonants respectively, ratios of phonologically short to long vowels (V/V:) and phonologically short to long consonants (C/C:) were computed. In addition, ratios of the vowel to following consonant (V/C: and V:/C, respectively) were computed. All ratios were calculated from means based on the entire material for each dialect (5 VC: and 5 V:C sequences x 3 productions x 3 speakers).

Comparisons between dialect data and Central Standard Swedish were based on ratios given by Elert (1964) as well as on reference data from a male Stockholm speaker producing the same material as the dialect speakers of SWEDIA.

3 Results and discussion

V/V:, C/C:, V/C: and V:/C ratios are given in Figure 1 for each of the dialects included in the study as well as reference ratios representing Central Standard Swedish.

The results point to substantial variation between the dialects as well as between the dialects and the references. Moreover, the very similar reference data (the SWEDIA reference and comparable data from Elert, 1964), appear as a solid ground for regarding the dialects as exhibiting durational patterns very different from Central Standard Swedish. The V/V: and C/C: ratios were generally lower for the dialect than for the reference speakers. That is, the short-long distinction for vowels as well as consonants was manifested by greater durational differences in the dialects than in central Standard Swedish.

As far as the vowels are concerned, the V/V: ratio of .71 for Vörå is an exception, being higher than the references. Moreover, this ratio representing the mean for all included vowels hides what appears as a difference separating this dialect from the others – substantially higher ratios for high as compared to low vowels. Thus, the ratio for short/long /i, y, u/ is .86, while for /o, a/ it is .49. This exception indicates that spectral characteristics have to be given attention beside the durational patterns (cf Engstrand, 1983).

As mentioned above, also the short-long consonant distinction was manifested by greater durational differences in the dialects than in Central Standard Swedish, and the greatest differences, that is the lowest ratios, were observed in the most northern varieties (Arjeplog, Överkalix, Nederkalix) and in the eastern varieties (Vörå, Närpes). It is mainly these low consonant ratios that are the basis for the very high V:/C ratios also characterizing these dialects. Compared to the approximate pattern of 1:1 in the reference data, the vowels in the dialects above were about two and a half times as long as the following consonant (in Vörå almost three times as long).

Finally, on the basis of the duration data presented here the conclusion to be drawn so far is that the further to the north or to the east, the greater the difference between the dialect and Central Standard Swedish. What differs most is the realization of the short-long consonant distinction which has consequences for the durational pattern in the vowel-and-following-consonant sequence with ratios as high as 2.8:1 compared to the very close to 1:1 pattern for Central Standard Swedish.

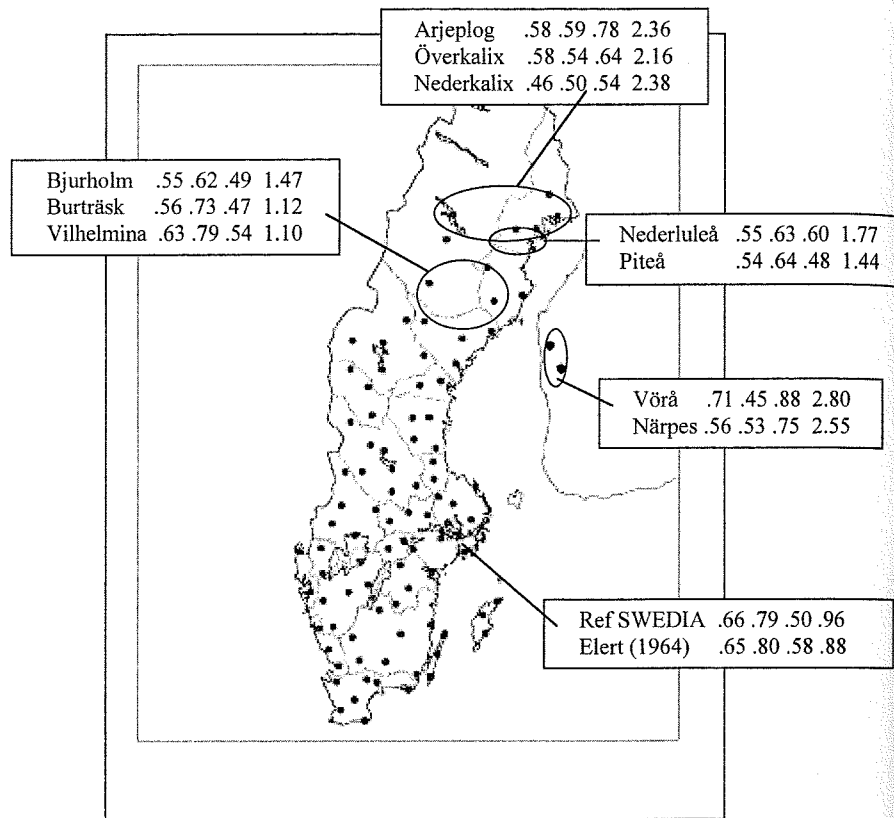


Figure 1. V/V:, C/C:, V/C: and V:/C ratios (first to fourth figure for each dialect and the references). Ratios calculated from means based on the entire material for each dialect.

Acknowledgements

This work was supported by the Bank of Sweden Tercentenary Foundation, grant 1997-5066:03, 04 to the project De svenska dialekternas fonetik och fonologi år 2000 (SWEDIA 2000) [Phonetics and phonology of the Swedish dialects around the year 2000]. Special thanks to Anna Aasa for segmentation and measurements.

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