

Pire Teras, Lõunaeesti vokaalisüsteem. Võru pikkade vokaalide kvaliteedi muutumine, Tartu 2003 (Dissertationes philologiae Estonicae Universitatis Tartuensis 11). 153 pp.

Speech sounds tend to change over time. In vowels, quality and its change are often related to quantity. However, the strength of the relation between quality and quantity varies with languages. In English, for example, the quality difference between short and long vowels is relatively large, in Standard Estonian, in the other hand, it is negligible. Also the changes occurring over time may differ with languages and dialects. In the first chapters of her thesis, Pire Teras gives a good overview of these phenomena in general and in Estonian and its dialects in particular.

In contrast to Standard Estonian, long and short vowels may differ in quality in Estonian dialects. Quality change may also depend on quantity: overlong vowels may, for example, be diphthongized, or, as in Võru dialect, raised. The changes in vowel quality in Estonian dialects are illustrated with the help of maps, and a detailed description is given of the vowel system of Võru dialect, citing a number of earlier papers from 1864 and onward.

The material of the present book consists of spontaneous speech (four speakers), isolated vowels (one speaker) and words embedded in text read by seven speakers. Acoustic measurements were performed on ten full-long (Q2) and ten overlong (Q3) vowels of Võru dialect. The speakers were born in the years 1924 to 1977, and stemmed from different parishes in Võru.

The acoustic measurements included vowel duration and the first four formants. The formant values are given in a physical (Hertz) and a psychoacoustic (Bark) scale. In addition to tables, there are numerous graphs, showing the relative position of vowels in F1—F2 and F2—F3 space. Moreover, the isolated vowels are illustrated with spectrograms. The results show that Võru mid vowels *e*, *ö*, *ɛ* and *o* are raised in when

in overlong quantity so as to be acoustically and psycho-acoustically very close to the high vowels *i*, *ü*, *j* and *u*. This appears in spontaneous speech as well as in read text and isolated vowels and, although the size of the raise may vary, it is present in present in the speech of all the subjects.

In addition to the acoustic measurements, Pire Teras carried out two perception tests: in the first test, isolated vowels read by one speaker served as stimuli; in the second, words cut out of texts read by four speakers were used. The isolated vowels were cut down to the same length, so that the duration of the vowel could not serve as a cue. The results showed that listeners confused isolated raised mid vowels with high vowels: for example, *ɛ* could not be distinguished from *i*, *o* from *u*, and, with less clear boundaries, *ö* from *ü*. There is no phonological contrast between *ɛ*, *j* and *j* (that is, the mid, raised and high variants of orthographic *õ*), they were therefore easily confused with each other.

The words cut out from the read text were presented to the listeners as minimal pairs, for example, *kiil* — *keel*, *kool* — *kuul*, etc. The results of the test showed that also in this case listeners perceived the raised overlong mid vowels as high. Of special interest is the case where listeners heard the word *kuuli* (Q2) as *kooli* (Q3) where the raised *o* sounds like *u*. That is, they made their quantity decision on the basis of vowel quality, not duration.

To recapitulate: raised mid vowels are acoustically very near and perceptually indistinguishable from high vowels in Võru dialect. As a consequence, Q2 mid vowels alternate with Q3 high vowels. The raised mid vowels can be treated as allophones of high vowels.

Reading the book, I was impressed by the careful methods and discussion of the problems of sound change. The work

will be of help for future researchers and in making comparison with other research in the field. The thesis is valuable also because it addresses a question that has interested researchers for a long time, namely the quality change of the mid vowels in Võru dialect, a phenomenon that appears also in other Southern Estonian dialects. Moreover, the investigation embraces different speaking styles, spontaneous speech being of special interest because it constitutes the means of the speakers' everyday communication and has been little investigated.

There are, however, a few points that I found open to question and which ought give rise to further discussion. Firstly, the use of isolated vowels as stimuli in a perception test. While overlong (Q3) vowels are possible as words in Võru as well as in Standard Estonian, Q2 vowels are not. As a principle, I think that the use of "impossible" forms should not be used in a perception tests. In this particular case, the question is: does the listener perceive Võru dialect or just some arbitrary speech sounds?

Another (in my opinion) questionable point is the phonological status of the raised vowels. At the beginning of the thesis, the author addresses the question of whether the raised mid vowels should be considered as allophones of corresponding high vowels (e.g. raised ϵ as an i -allophone, etc). On the basis of the results of the perception tests where listeners could not perceive the difference between raised ϵ and i , she concluded that the raised vowels can indeed be considered as allophones of corresponding high vowels. This may be correct: switches in phonemic identity are not unusual in languages. What I am doubtful about, is the possibility ascertaining phonemic identity with the help of perception tests. Such tests can only show that the listeners hear a certain phonetic unit, e.g. a raised ϵ as i . However, they cannot decide if it is phonolog-

ically $/e/$ or $/i/$. Phonemes are abstract units which exist in the listeners' mind. The fact that two speech sounds closely resemble each other, does not mean that they are to be considered as (allophones of) the same phoneme. On the other hand, there are examples in the world's languages, where allophones of a phoneme do not resemble each other phonetically. To determine the phonemic identity of a unit is much more complicated than deciding what it is phonetically. Spelling practice may possibly give a cue.

Pire Teras' book as a whole encourages future research. The large amount of data may encourage further study. The author has also thrown light on a phenomenon which has not been previously discussed and which needs further study, namely the "trade relation" between quality and quantity in Võru vowels: greater difference in quality calling for less difference in quantity and vice versa. This is not an uncommon phenomenon in the world's languages, but it is nonexistent in Standard Estonian and has not been studied in Estonian dialects.

Finally, it can be of interest to make comparisons between the conditions of dialects in different countries from the sociological point of view. Research in Sweden has shown that there are differences in the strength of dialectal features between older and younger, male and female speakers, dialectal features being strongest in older male speakers (s. G. Bruce, C.-C. Eler, O. Engstrand, A. Eriksson, *Phonetics and Phonology of the Swedish Dialects — a Project Presentation and a Database Demonstrator. — Proceedings of the 4th International Congress of Phonetic Sciences (ICPhS 99), San Francisco 1999*, pp. 321—324). No such differences were found in Võru. On the contrary, there were examples where the change in vowel quality was largest in younger female speakers.

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