

TONEME PATTERN CONTOURS IN NORWEGIAN

K. Fintoft, Department of Linguistics, University of Trondheim,
Norway

The purpose of the investigation is to study how the toneme patterns (the fundamental frequency in minimal tonemic pairs) change from one part of the country to the other. The investigation has been restricted to disyllabic words of the type /--V:CV/. Recordings have been made of about 1000 adult subjects from about 450 different places. For each speaker about 20 tracings of each toneme have been analyzed. For each speaker/place the positions of the maxima and minima on the toneme curves have been calculated relative to the duration of the sequence /V:C/. On the basis of the average curves for the different places, the realization of the two tonemes have been characterized by

1. the relative position of the main F_0 peak or the peak in the stressed syllable.
2. The degree of similarity between the two toneme curves, given as a correlation coefficient.
3. the constants α , ω and ϕ of a damped sine function
 $y = e^{\alpha x} \sin (\omega t + \phi)$.

Maps are prepared indicating different values of these characterizations. In this way the dynamic aspect of the toneme curves is easily studied. From the different contour maps the old communication routes between Eastern and Western Norway are clearly seen. In some areas we see that the two toneme patterns correspond to toneme patterns in two different regions. In some areas we see how the patterns gradually change in such a way that the toneme curves coincide. When we examine the toneme curves in this way, it seems clear that the realization of the tonemes reflects the relationship between different geographical areas and the main communication routes in former days.