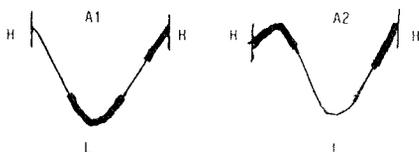


EASTERN NORWEGIAN AND WESTERN SWEDISH INTONATION IN A COMMON DESCRIPTIVE FRAMEWORK

Eva Gårding and Per Lindblad

The purpose of this recently started project is to apply a method of intonation analysis to two neighboring dialects of two different languages which permits a systematic comparison. Our material consists of similar sentences, pronounced as statements and echo questions with focus in different places.

For this presentation we have selected the statements *Manne lever bedre nå* 'Manne lives better now' (Norwegian) and *Manne lever bättre nu* (Swedish). Figure 1 presents fundamental frequency tracings for typical utterances. We shall first comment on the Oslo speaker. The accented words are located in more or less V-shaped pitch patterns. In focus the two accents can be schematized as follows:



For the analysis we shall make use of the V-shape. Accent 1 (A1) and Accent 2 (A2) are placed in their respective V's according to different rules which give the words their characteristic tonal patterns. The low point of A1 is in the middle of the accented syllable. For A2 the corresponding low comes later, more precisely at the beginning of the postaccented syllable. A difference in the timing of the accent contour for the two accents is well documented in the literature for all Swedish and Norwegian dialects. Here we note in particular that the timing difference is present even at the first high point, which for A1 is the final high of an earlier accent and for A2 is in the middle of the accented vowel. The last High on the other hand, is similarly timed for both accents. Here A2 has caught up with A1 (Gårding and Lindblad 1973).

We shall call this V the focus domain and give it the representation HLH. Outside of focus we also find V-forms in connection with the accented syllables, which we call accent domains. Very often the focus domain contains not only the focussed word but also a group of following unaccented or deaccented syllables. The term *deaccented* means that the word has lost its lexical accent in the phrase. The internal weight of the syllables is maintained by duration.

We have several examples of deaccented words subordinated to a V. In spite of their deformation by larger-scale falls and rises, their inherent pitch shapes are still recognizable. This has interesting psycho-acoustic implications suggesting a constant representation at a higher level. However, in synthesis these portions of the curve can be generated by straight interpolation.

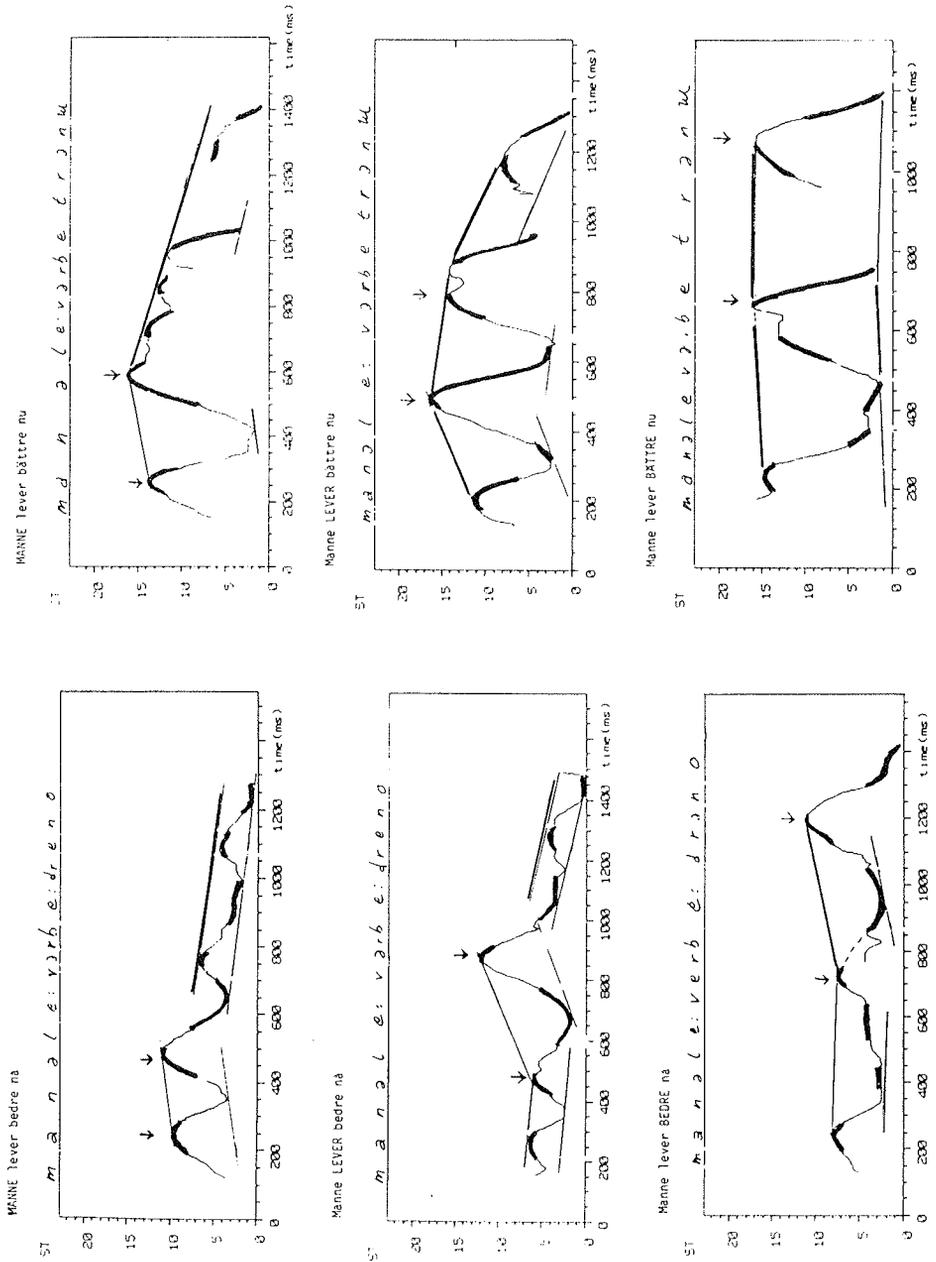
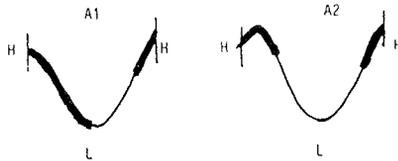


Fig. 1. Fundamental frequency tracings for typical Oslo and Göteborg utterances in semitone scale. Arrows show pivotal points. See text.

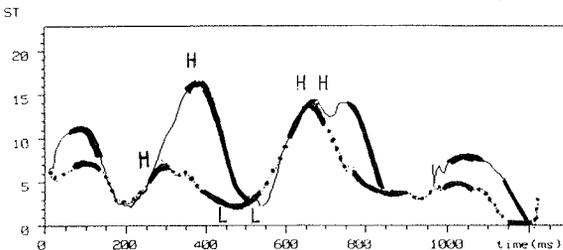
Let us now turn to sentence intonation. The focus domain, which has a larger range than the rest of the contour, is set off by two pivotal points (the arrows of Fig. 1). These pivotal points divide the intonation into smaller parts of which the last part expresses modality, here statement. To illustrate this, we can enclose the postfocal accents in a grid. The width is about one third of the total range. It is obvious that the declination of the grid is determined by the length of the phrase. In the focus domain the intonation is rising, acoustically manifested by a rising topline. Before the first pivotal point the intonation is falling or level. The size of the obtrusions from the topline reflects the degree of accentuation which is largest in focus.

In the Göteborg dialect the accents are also V-formed but the contours of the accents and positions in the V are different (see below and Fig. 1).



It is A1 which accounts for the most important difference, visual as well as auditive, from Norwegian. As for Norwegian, the last focus high is a pivotal point for the intonation. The final fall expresses statement and the rate of declination is determined by the length of the phrase. When *Manne* is in focus, our speakers have used two different strategies. Speaker LL puts *Manne* into a V of its own and deaccentuates *lever* on a high plateau. Two other informants, include *lever* in the right branch of the V.

The comparison between the dialects is summarized by the figure below. Dots denote the Oslo curve.



The figure shows the sentences in which *lever* has been in focus. The two utterances which were similar in overall duration have been brought to a common length by a linear change of the time scale. The superposition of the pitch contours demonstrates that the most conspicuous difference between the dialects can be tied to the manifestation of A1. HLH marks the focus domain. The accented syllable in Göteborg is in the left branch of the V (HL) whereas in Oslo it is at the bottom of the V-shape (LH). Another consistent feature is that the focus domain has a rising intonation manifested by a

rising topline in Oslo. In our Göteborg material the situation is less clear.

What is this V, that has been given such an important place in our description? We regard it as the phonetic domain of focus which makes it possible to give precise boundaries to the focal contour and predict this part of of the intonation curve from information about focus and accented syllables. For the phonological domain of focus it would be reasonable to let it start with the focussed word.

In phonetics it is customary to differentiate phonetic and phonological entities. For segmental units and even prosodic ones like accents or tones this is regarded as a matter of course. In agreement with this we would like to make a plea for the importance of differentiating phonetic and phonological domains of prosodic units larger than a syllable. The distinction made here between the phonetic and phonological domain of focus is a case in point.

Let us end this comparison with some clarifications concerning our earlier work and also compare with the analyses of other researchers. In the analyses that were presented in the project Swedish prosody (Bruce and Gårding 1978), sentence accent was used as a term and concept instead of focus. No representation for focus domain or phrase was needed since phrase and sentence coalesced in the material designed to analyse intonation in different prosodic categories of Swedish. The postfocal high of the Göteborg dialect comparable to the last high of the focus-V in the present material was then interpreted as a sentence accent, SA, although the authors were well aware that the accent did not have the characteristic acoustic qualities of a sentence accent. In the present terminology it would be called a high pivotal point.

Thorstein Fretheim (1988) calls everything that happens from the accented syllable to the following accent a foot or an accent group (tonelagsgrupp). A similar notion is stress-group used by Nina Thorsen (1978) and Gösta Bruce (1987). The rhythmic counterpart is denoted speech tact by Eva Strangert. Fretheim calls the larger group that also includes proclitic words an intonation phrase which seems to be a phonological unit.

With the focus domain as a parameter it is possible, in this material at least, to show that the topline of the focus domain has a different inclination in questions than in statements. This is corroborated by material presented by Bredvad Jensen (1984) and Gårding (1979).

Deaccentuation has been found to be much more frequent in the Stockholm than in the Skåne dialect. Some dialect specific tendencies have been presented (Gårding 1964) and compared to tendencies in Danish (Gårding et al 1974). One result of the comparison of the dialects of Göteborg and Oslo is that deaccentuation of lexical accents is similar i.e. speaker dependent and situation dependent rather than dialect dependent.

We are also led to surmise that what in analyses of different prosodic systems appears under many different names, accent group, stress group, spreading tones, floating tones and Brückenakzente, may be the same phenomenon, i.e. phonologically deaccentuation or in a tone language neutralisation of tone,

which phonetically corresponds to an interpolation between the targets that the speaker chooses to accentuate.

References

- Bruce G. 1987. How floating is focal accent? *Nordic Prosody IV*, ed. Gregersen K., Basböll H: 41-49
- Bruce G. and Gårding E. 1978. A prosodic typology for Swedish dialects. *Nordic Prosody. Travaux XIII*, ed. Gårding E., Bruce B., Bannert R. Lund
- Bredvad-Jensen A.-C. 1984. Tonal geography. *Nordic Prosody III*, ed. Elert C.-C., Johansson I., Strangert E.: 31-41
- Fretheim T. and Nilsen R. A. 1988. Alternativspørsmål: opp som en løve, ned som en skinnfell. Manuskript
- Gårding E. 1964. Några observationer rörande tryckförhållanden i stockholmskt talspråk. *Svenskans beskrivning 1*, ed. C.-C. Elert, Stockholm
- Gårding E. 1979. Sentence intonation in Swedish. *Phonetica 36*: 207-215
- Gårding E. and Lindblad P. 1973. Constancy and variation in Swedish word accent patterns. WP 7. Ling. Lund University: 53-65
- Gårding E., Bannert R., Bredvad-Jensen A.-C, Bruce G., Naucclér K. 1974. Talar skåningarna svenska? *Svenskans beskrivning 8*, ed. Platzack C.:107-117
- Strangert E. 1985. Swedish speech rhythm in a cross-language perspective. Umeå

THANKS to Ann-Christine Bredvad-Jensen for lending us her Oslo material!