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Abstract
The study reports a comparison of FO declination in read-aloud and spontaneous speech using Swedish material. For both speaking styles the analysis revealed negative slopes, resettings at utterance boundaries, and a steepness-duration dependency with declination being less steep in longer utterances than in shorter ones. However, there was a difference in degree of declination between the two speaking styles, read-aloud speech having steeper slopes, stronger resetting and a more apparent time-dependency than spontaneous speech.

Introduction
There is a growing interest into comparative studies of read-aloud and spontaneous speech (Blaauw, 1995). These are generally thought to represent two 'speaking styles' that are so distinct that results obtained for one do not necessarily generalize to the other. The study to be reported here aims at testing whether the two speaking modes are prosodically different. More specifically, it concentrates on the analysis of various aspects of declination, defined as the tendency for FO to gradually drift downward in the course of an utterance (see Hart, Collier, and Cohen, 1990).

Declination has been shown to function as a structuring device, since a reset in the slope of declination often coincides with boundaries of various linguistic units. At the same time, it is sometimes claimed to be style-dependent, e.g., much more typical of isolated read-aloud utterances than of casual, informal talk. Also, declination is still somewhat controversial, partly due to difficulties to reliably measure it. Therefore, in spite of numerous studies over the years comparing declination in read-aloud and spontaneous speech, there are still a number of unsolved issues. This study, based on Swedish material, aims at some solutions to some of the problems.

Procedure
We analyzed two short Swedish speech samples produced by a male speaker: a read-aloud news telegram, 233 words long, and a spontaneous retelling of the same text containing 252 words. (The same material was previously used by Strangert & Heldner, (1995) in a transcription study.) Based on mean boundary strength scores by nine transcribers using a 4-point scale, two kinds of units were isolated, one defined as a stretch of speech ending with a mean boundary of at least 2 (utterance), and the other with a mean boundary of at least 1 (phrase).

Declination was comparatively investigated with respect to (i) slope, (ii) amount of reset and (iii) time-dependency. Slope of declination was estimated fitting an all-points linear regression line to utterances and phrases.

Results
The analysis revealed, in general, negative slopes in both the read and spontaneous speech, but the slopes were significantly steeper in the former than in the latter (utterances: -.9 and -.4 semitones, respectively; phrases: -1.7 and -.5 semitones, respectively). A comparison of two successive FO peaks located at either side of an utterance boundary brought to light that read speech exhibits the strongest resetting with a mean peak increase of 5.4 semitones as compared to the more modest resetting in the spontaneous speech (2.1 semitones). Finally, for both speaking modes, we found a steepness-duration dependency in the sense that declination was flatter in longer units, though this time-dependency was more apparent in read-aloud speech.

Conclusions
Based on this study we conclude that there are, in effect, prosodic differences between the two speaking styles investigated, but that these differences should be described in quantitative rather than qualitative terms. That is, both read-aloud and spontaneous speech are characterized by negative slopes of declination and by
resetting, and they both exhibit a time-dependency. Nevertheless, differences show up between the two speaking styles in the degree to which they exhibit these patterns.

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