Head Movements, Eyebrows, and Phonological Prosodic Prominence Levels in Stockholm Swedish News Broadcasts

Ambrazaitis, Gilbert; Svensson Lundmark, Malin; House, David

Published in:
FAAVSP - The 1st Joint Conference on Facial Analysis, Animation, and Auditory-Visual Speech Processing

2015

Link to publication

Citation for published version (APA):

General rights
Unless other specific re-use rights are stated the following general rights apply:
Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.
• Users may download and print one copy of any publication from the public portal for the purpose of private study or research;
• You may not further distribute the material or use it for any profit-making activity or commercial gain
• You may freely distribute the URL identifying the publication in the public portal

Read more about Creative commons licenses: https://creativecommons.org/licenses/

Take down policy
If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.
Head Movements, Eyebrows, and Phonological Prosodic Prominence Levels in Stockholm Swedish News Broadcasts

Gilbert Ambrazaitis¹, Malin Svensson Lundmark¹, and David House²

¹Linguistics and Phonetics, Centre for Languages and Literature, Lund University, Sweden
²Department of Speech, Music and Hearing, School of Computer Science and Communication, KTH Stockholm, Sweden

1 Background and Research Question

A growing body of evidence suggests that hand, head, and eyebrow movements are aligned with pitch accents in speech and in this way contribute to the production and perception of prosodic prominence [e.g., Swerts and Krahmer 2010, and references therein]. Swerts and Krahmer [2010] found in a study on visual prosody of Dutch newscasters that the more accented a word was on an auditory scale (no accent, weak accent, strong accent), the more likely it was that the word was also accompanied by a head or eyebrow movement, or both (most common in the strongly-accented words). A way of interpreting these findings is that head and eyebrow movements have equivalent, cumulative functions as building blocks of prominence.

This study is part of a project investigating how verbal and visual prosody interact in encoding levels of multimodal prominence in Swedish, and how these prominence levels are employed by speakers and listeners in the (de-)coding of information structure. Inspired by Swerts and Krahmer [2010], this contribution presents a first analysis of the distribution of head and eyebrow movements as a function of prosodic prominence levels in Swedish news broadcasts. In our study, we make use of the fact that Swedish has two phonological prosodic prominence levels, which can be distinguished rather easily when inspecting the fundamental frequency contour. Thus, our point of departure is the question whether phonological prominence levels – which often, but not always necessarily reflect perceptual prominence levels – have an effect on the distribution of head and eyebrow movements.

Unlike so-called intonation languages like English and German, Swedish is a pitch-accent language, employing pitch contrasts at the lexical level. In particular, Swedish has a binary distinction between two word accents (Accent 1, Accent 2), i.e., two different pitch accents assigned to words by means of lexical/morphological rules. In addition, words can be highlighted at the sentence level, representing the (absolutely) most important information.

To conclude, this study suggests that head and eyebrow movements can represent two quite different modalities of prominence cueing, both from a formal and a functional point of view, rather than just being cumulative prominence markers.

Acknowledgements

This work is supported by a grant to the first author from the Marcus and Amalia Wallenberg Foundation.

References