Preface

The articles collected in this volume are a selection of the papers presented at the 3th Nordic Symposium on Multimodal Communication that was held at the University of Helsinki on 27-28 May 2011. The symposium, which was organised by the Nordic project on multimodal corpora NOMCO (http://www.sskkii.gu.se/nomco/), and funded by the NOS-HS NORDCORP programme, is the latest event in a series of Scandinavian symposia and workshops dedicated to multimodal communication that was initiated more than a decade ago. The list includes the Swedish symposia on multimodal communication held in 1997, 1998, 1999 and 2000, the two Nordic symposia on multimodal communication held in Copenhagen in 2003 and Gothenburg in 2005, and the workshop at the 2009 NODALIDA conference in Odense. Following this tradition, the Helsinki symposium aimed to provide a forum for researchers from different disciplines who study multimodality in human communication as well as human-computer interaction.

A number of the studies presented at the symposium and published in this volume have been carried out under the auspices of the NOMCO project, and deal with the corpora of first acquaintance conversations in various languages developed and annotated as part of the project. The remainder of the papers, however, provide additional perspectives through a wide choice of topics including the analysis of listener responses, speaker clustering, or multimodal behaviour in aphasics. They address a range of communication situations and languages, and make us of quantitative as well as qualitative analysis methods.

The paper on co-activation by Allwood and Lu investigates the issue of multimodal behaviour adaptation in face-to-face communication. The authors look especially at repetition and reformulation in two Chinese-Chinese and two Chinese-Swedish first acquaintance conversations, and find that the more similar conversational participants are in terms of ethnic, gender and linguistic terms, the more co-activation takes place.

The study by Berbyuk-Lindström also addresses the cross-cultural dimension by analysing recordings of medical consultations between Swedish patients and Swedish or foreign doctors. In particular, the author looks at linguistic repetitions and reformulations. She finds that the foreign physicians use more repetitions and reformulations than their Swedish colleagues when interacting with Swedish patients. Thus, her results partly disconfirm the conclusions in the Allwood and Lu paper on co-activation. The question is, of course, whether the difference is due to the two very different communication situations.

Jokinen and Pärkson deal again with the way in which conversation participants attune their behaviour to one another. The topic of the paper is alignment of gestural behaviour and repetition of words or syntactic patterns across participants in three party conversations in Estonian. The authors note that the presence or absence of synchrony and repetition reflects the level of agreement and cooperativeness among participants.

Boholm and Lindblad analyse Swedish speakers in first acquaintance conversations, in particular the relation between words, prosody and head movements in Swedish interactions, and find systematic relations between certain word tokens or prosodic features and accompanying movements. The study also finds interesting regularities in the temporal alignment and mutual duration of words and nods.

Also the paper by Paggio and Navarretta explores multimodal characteristics of first acquaintance conversations, this time in a Danish linguistic context, and focuses in particular on the way feedback is expressed in words and gestures. It is shown that all modalities, i.e. head, face and eyebrows, contribute to the expressions of feedback, with repeated nods and smiles as the most frequent feedback gesture types.

Lu and Allwood look at feedback in Swedish, Chinese, and Swedish-Chinese first acquaintance conversations. On the basis of their mono-cultural and cross-cultural data, they describe similarities and differences between Chinese and Swedish participants in using unimodal and multimodal feedback.

De Kok and Heylen study multimodal listener behaviour from a number of different perspectives by comparing data from a corpus of listener responses with judgments on response appropriateness on the one hand, and experimentally induced responses on the other. By contrasting the three perspectives, they find that there are moments in which a user response is highly appropriate, inappropriate, controversial or neutral, and that different contextual cues can be used to discriminate these moments. The study is relevant for predictive models of listener behaviour.

The paper by Nishida, Ishikawa and Yamamoto is an example of how certain aspects of conversational behaviour can be modeled. In particular, it addresses the issue of speaker clustering in multi-party conversations, and proposes a method based on the two notions of *speaker subspace* and *phonetic subspace*. The method is quite successful at clustering speakers in a large corpus of conversational Japanese.

Vincze and Poggi provide a very different, largely qualitative analysis of different ways in which blinks and eye-closure are used in a corpus of political debates. Their aim is to describe a number of signal-meaning pairs to be used in the definition of a lexicon of gaze behaviours.

The last two papers look at multimodal behaviour in the context of impaired conditions.

The paper by Ahlsén looks at the relation between speech and gestures in aphasic patients. The communication situation is informal face-to-face interaction, and the data analysed are gesture samples from subjects with and without aphasia. The study points to the fact that gestures in aphasic patients to some extent are affected by the impairment, but also that they can be used to compensate for word finding difficulties.

The study by Fyrberg and Ahlsén, finally, looks at the multimodal communicative ability of a young subject suffering from moderate traumatic brain injury in communicative situations involving one or two interlocutors. The authors show that the adoption of a triangulation of methods, including the analysis of multimodal behaviour together with more conventional neuropsychological and speech assessments, provides a fruitful approach to the diagnosis and treatment of communication impairment after traumatic brain injury.

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