Prominence relations between discourse referents as a factor for the analysis of the prosodic marking of information status – a corpus study of spoken German

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This paper investigates the prosodic marking of discourse referents in a corpus of spoken German. Previous analyses revealed that the prosodic marking of information status varies to such an amount that the established prominence hierarchy for discourse referents with respect to information status (New > Accessible > Given, e.g. Baumann & Grice 2006) could not be confirmed (Kügler et al. 2014). We argue that a simple correlation between the information status of a discourse referent and its local prosodic marking does not suffice to account for the prosodic variation found in a corpus of spoken German. We propose to take the prominence relations between discourse referents into account in order to establish the prosodic prominence of a particular discourse referent.

The corpus consists of 13 non-scripted mobile phone recommendation monologues by two different professional salespersons prompted by a customer request. All monologues are about five minutes long and compare the properties of certain mobile phones in order to give a recommendation. The corpus is part of a larger project on information structure in speech synthesis, which develops a product recommender system for mobile phones (Kügler et al. 2012, 2013) that contains a speech generator and a speech synthesis front-end. Discourse referents were annotated for their information status, for topicality and for contrast solely based on the text, i.e. not listening to the speech signal, applying the Potsdam Information Structure guidelines (Dipper et al. 2010). Prosodically, the corpus was annotated using GToBI (Grice et al. 2005). An inter-annotator reliability study on the annotation of information status revealed an overall agreement between two annotators of about 80% (n = 463 NPs), with a Cohen's κ of 0.75. The inter-annotator reliability for the prosodic annotation is currently under study.

Based on the tonal annotations we analysed the range of pitch accent distribution in relation to the individual information status annotations. Three major accent groups were found for accessible referents (cf. Schweitzer et al. 2009 for a similar grouping): 36% high accents constitute the majority of cases, which consist of both single H* and L+H* accents. A second group consists of rising L*+H accents with 28%. A minor group of 6% consists of downstepped high accents (H+!H* and H+L*); H+L* accents are to be interpreted as downstepped high accents according to Grice et al. (2009). We analysed the prominence of discourse referents also in terms of F0 values of L and H tones of the pitch accents. New referents were expected to be realized as more prominent than accessible ones, and accessible ones more prominent than given referents (cf. Baumann & Grice 2006). There were however no significant differences for H or L tones between the different information statuses of the discourse referents. In sum, a local analysis of pitch accent type and its phonetic realisation did not differentiate the prominence between discourse referents.

To account for the variation in the data, we analysed the pitch accent distribution and the phonetic realisation of tones as a function of relative prominence of discourses referents within the discourse. For instance, we compared the prosodic prominence of accessible referents that were preceded by new or given referents. Taking this weight of relational prominence into account revealed that the prosodic expression of the information status of a discourse referent follows the assumed prominence scale New > Accessible > Given. This measure reflects the individual discourse referent's position in the discourse. We conclude that the prosodic realisation of discourse referents in spoken speech is a complex interplay of prominence relations between the individual discourse referents.

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