

How to model the “meaning” of intonation: Some insights from an interactional perspective

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Abstract

The role of prosody for the interpretation of discourse is a matter of ongoing debate. Especially for intonation, most researchers agree that there is some impact of intonation on the interpretation of discourse (cf. the “Linguist’s theory of intonational meaning” (Ladd 1996)). Many approaches within intonational phonology aim to ascribe invariant meanings to certain elements of intonation like the pitch accent or the nucleus. On the basis of spontaneous dialogue the present paper argues that there is no invariant meaning of intonation and that co-occurring devices on other linguistic levels as well as the context have to be taken into account to model intonational meaning potentials.

1. Introduction

In trying to describe the meaning of intonation, a scholar encounters several problems. First, one has to decide on the kind of meaning that shall be described. In many existing studies this decision has been made in favour of information structural notions (e.g. Uhmann 1991, Féry 1993). Others have focussed on the role of intonation for the organization of discourse (e.g. Selting 1995). Furthermore, many studies focus on or at least incorporate assumptions about possible emotional or attitudinal meanings of intonation (for an overview see Couper-Kuhlen 1986). Second, besides the problem of what kind of meaning should be considered, it is far from clear what sort of element or domain a certain meaning can be assigned to. In intonational phonology two main positions can be identified with respect to this problem: the compositional approach, which ascribes intonational meaning to single tonal events like the pitch accent or the boundary tone (cf. Pierrehumbert & Hirschberg 1990), and the contour based approach, which ascribes meaning to the nuclear stretch of the intonation phrase (cf. Gussenhoven 1984). Adding studies from an interactional perspective, things become even more complicated, since relevant domains of these studies, like the turn, may not be taken into account by studies from a traditional intonation phonological background. The third problem that shall be mentioned

is the often supposed invariance of form-function correlates: fixed meanings are assigned to elements of intonation, which is the case, for example, when a certain accent type is described as a topic or focus accent. Recent studies (Baumann 2005, Féry to appear) call into question the one-to-one mapping of form and function. The present study will add further evidence against the viability of a simple correlation.

The main aim of the present paper is to argue against the possibility of assigning invariant meanings to specified elements of intonation. Two examples will be presented to support this claim. First, an example of a downstepped H^* accent with varying information status will be given. Second, it will be demonstrated on a quantitative basis how one intonation contour can serve as a turn-holding device as well as a turn yielding device depending on co-occurring signals on other linguistic levels. Both examples are drawn from naturally produced dialogue of Cologne German speakers.

2. Material and methods

The data of the present paper comprise 14 hours of spontaneous dialogue, taken from interviews with elderly male and female speakers, episodes from a half-documentary serial about a working class family, and episodes of the reality-TV soap "Big Brother". The TV serials were broadcasted in the 1980's and 1990's, the interviews were recorded in the year 2001.

Methodologically the paper rests on the assumptions of Interactional Linguistics (cf. Couper-Kuhlen & Selting 1996). Studies within this framework aim at the reconstruction of the participant's perspective. Hence, the methods used are inductive. Intonation is viewed as a *contextualization device*, i.e. it serves to guide the participant's interpretation of the ongoing discourse (cf. Auer 1992). Methodologically, three guidelines build the basis of the analysis of intonation: First, in addition to intonational devices linguistic devices of other linguistic levels, like syntax, lexico-semantics and semantopragmatics are analyzed. Second, the reactions of co-participants are considered crucial for the interpretation of ongoing discourse. This is especially important in the light of the primary aim of reconstructing the participant's perspective, as has been mentioned above. Finally, the utterance that bears the intonational device should be viewed as part of its wider context, which consequently has to be taken into account for the analysis.

3. Invariant meaning of intonation?

3.1. Information structure in the Cologne German "hat pattern"

In this section an example arguing against the invariance of intonational meaning will be given. The intonation contour under discussion is a typical "hat pattern", consisting of a rising movement (L*+H) followed by a high plateau and a falling movement (!H* L-%) ending in a final low stretch that may span until the boundary of the intonation phrase. Fifty instances of this contour were analyzed. Traditional descriptions of this pattern within the framework of intonational phonology, which are based on laboratory data (cf. Féry 1993, Ladd 1996, Mehlhorn 2001), highlight the fact that the first, rising pitch accent is associated with a topic constituent, while the second, falling pitch accent is associated with the focus constituent of the sentence. In Cologne German spontaneous dialogue, on the contrary, this simple correlation is not confirmed. Instead, the Cologne German hat pattern deviates from the traditional descriptions (of Standard German mostly) with respect to two aspects at least: First, the syntactic structure of the carrier utterances differs from those described for Standard German. Second, the information status of the second pitch accent varies considerably between a range of rhematic and non-rhematic constituents. The following two examples shall serve as an illustration of the syntactic structure as well as the information structure of typical contour-bearing utterances. Small letters indicate tonal targets (l = low, m = mid, h = high):

(1) 1 h m 1
 [die amriKAner gingen RAUS] [aus: (-) THÜringen]
 the Americans go-3PsPlPast out from Thuringia
 ,The Americans withdrew from Thuringia.'

(2) 1 h m 1
 [da gAb=et noch keine BLÄCKföß] [oder SOWat]
 there give-3PsSg-Past yet no NAME or anything
 ,The Bläckföß [name of a band, P.B.] or anything like that did not exist yet.'

Both examples are characterized by an expansion of a syntactically complete utterance. Square brackets indicate the beginnings and endpoints of the syntactic elements. While such expansions of complete structures are typical for spontaneous dialogue¹, they are not mentioned as a possible carrier structure in any of the traditional

¹ For a discussion of this phenomenon see Auer 1991, 1996, 2006.

intonation phonological accounts of the hat pattern. In the Cologne German data the hat pattern embraces the first and the second syntactic element and thereby prosodically integrates both elements. With respect to information structure the examples differ. Whereas example (1) postpones rhematic information, which is crucial for understanding, the postponed element in example (2) is non-rhematic. Their prosodic structure, however, does not differ. Both pitch accents in the second, falling part of the hat pattern can be interpreted as a downstepped $!H^*$. Consequently, these examples highlight the necessity not to equate accent type with information structural notions².

3.2. The role of co-occurring devices and context

In the following I want to demonstrate the necessity of taking into consideration co-occurring devices on other levels than intonation in order to describe the "meaning" of intonation. In a previous study 350 instances of a nuclear rising-falling contour have been analyzed with respect to their turn-holding or turn-yielding behaviour, respectively (cf. Bergmann 2006). The data proved that the contour serves as a turn-holding device in most cases, i.e. the current speaker continues the turn after the contour bearing utterances. Still, this function is not exclusive. There are gradual quantitative differences in probability for a turn continuation, depending on the complexity of co-occurrence with turn-holding devices on other linguistic levels. The notion of turn-holding device refers to linguistic elements that project more to come in an ongoing discourse. These include lexical devices like "first" (*erstmal*), syntactically incomplete structures like pre-positioned if-clauses (*wenn..., dann...*), as well as semantico-pragmatic structures like question-answer-pairs or narratives. The competent member of a speech community has knowledge concerning the completeness of these structures. Quantitative analysis has shown that the more turn-holding devices occur in an utterance the bigger the probability for a turn continuation to occur (ranging from 0% to 5% speaker change with decreasing complexity of turn-holding devices). If the contour-bearing utterance is not characterized by any turn-holding device on lexical, syntactic, or semantico-pragmatic level, 18.6% of all cases are followed by a clear speaker change. This means that intonation alone is a relatively weak predictor of turn continuation. Nevertheless, the rise-fall has an impact on turn-taking, which can be demonstrated when comparing the final rise-fall to final rises and final falls. Everything else being equal, (i.e. no turn-holding devices in the utterance), considerable quantitative differences can be observed:

² Details are given in Bergmann (to appear).

Whereas 81.4% of all rise-falls, and 82.3% of all simple rises result in turn continuation, this is the case for only 66% of all simple falls. Thus, the intonation contour on its own may serve as a turn-holding device, but its impact is strongly enhanced by co-occurring turn-holding devices on other linguistic levels. These findings are equivalent to those of Ford & Thompson 1996, and Wennerstrom & Siegel 2003 for English.

It has to be kept in mind, moreover, that the study reveals a small amount of rise-fall bearing utterances that do not lead to turn continuation. These instances of the rise-fall were submitted to qualitative analysis in order to find out whether speaker changes could possibly be considered competitive or might be explained by other intervening constraints like insertion of side sequences with later resumption of the interrupted action. If this were the case, the rise-fall could still be regarded as a turn-holding device. However, the analysis yielded the result that only 16 of all 28 speaker changes were due to competitive actions, side sequences, or other intervening factors. An explanation for this result can be found when considering the context of the rise-fall bearing utterances. All cases of rise-falls followed by a speaker change occurred within discussions, reproaches or comments on an ongoing action, while none of the rise-falls without following speaker change did so. Consequently, the turn-yielding function of the rise-fall seems to be restricted to specific pragmatic contexts.

In conclusion, detailed analysis of the rise-fall in Cologne German spontaneous dialogue reveals the fact that not only should intonational devices be analyzed in combination with co-occurring devices, but it additionally reveals that it is not possible to restrict the contour to one single usage. In this case, at least, it seems wrong to speak of "turn-holding" or "turn-yielding" intonation without taking into account the context of occurrence. Instead, the diversity of usage should be considered and traced back to its pragmatic conditions.

4. Summary and conclusions

The main aim of the present paper was to argue for an approach to modelling the "meaning" of intonation that crucially takes into account signals on other linguistic levels in addition to the intonational level. Two examples have been discussed. The first example argued against the simple correlation of specific intonational elements with functional categories. It was demonstrated how one pitch accent type can be correlated with different information structural categories. The second example highlighted the fact that the "meaning" of one intonation contour varies depending on lexical,

syntactic and semantico-pragmatic choices it combines with. In other words, co-occurrence of linguistic devices on several levels is crucial for the interpretation of the "meaning" of intonation.

My proposal for the analysis of intonational meaning therefore fundamentally disagrees with Gussenhoven (1984: 197-198), who states that

"[...] we should be careful not to be misled into assuming that intonational meaning is principally different from what we have so far believed linguistic meaning is like. It would be foolhardy [...] to assume that intonational meaning is variable, depends on other choices it combines with, and cannot therefore be given specific characterisations. If this was true, how would language be learnable? Just how many combinations of tune and text are there?"

Contrary to this view, the empirical data presented in this paper hint at the fact that it is actually worthwhile considering the variability of intonational meaning in dependence with its combination with textual elements.

In addition, the data suggest that one should be careful about drawing conclusions about the meaning of intonation without considering the type of data analyzed. Both examples clearly show that, depending on the type of data, different outcomes concerning "typical" usage may arise. In section 3.1. the analysis of spontaneous dialogue yielded syntactic structures as carrier sentences that had not been described for laboratory data. In the same line section 3.2. calls into question the possibility of deriving reliable quantitative results about typical usage patterns of intonation contours, if the context of usage and/or the type of data are ignored. If the utterances in discussions, reproaches or comments on ongoing actions had been missing, the rise-fall would have been described as purely turn-holding.

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