How can we best understand and model intonation meaning and intonation's role in conversation and processing?

Anja Arnhold
University of Alberta

Scholars have long observed that the meaning of an utterance can change dramatically depending on intonation (e.g. Sweet, 1900; Jakobson, 1931/1971). However, while this is uncontroversial, we are far from understanding what intonational meaning is. This talk will address the question posed by the CROSSIN workshop organizers of how we can make progress on this difficult issue.

I will first review three existing models of intonational meaning – Gussenhoven (1984), Pierrehumbert & Hirschberg (1990) and Steedman (2008) – which all share an approach that has been called the 'linguistic normalcy of intonational meaning' (Gussenhoven, 1984) and the 'linguist's theory of intonational meaning' (Ladd 1987, 1996/2008). All three characterize intonation as conveying meanings in the sense of instructions from the speaker for how the hearer should interpret the propositional content of the utterance with respect to the set of (mutually shared) beliefs of the speaker and the hearer. The three models further share a compositional approach treating the individual elements of intonation as morpheme-like (also see overviews in Ladd, 1996/2008; Portes & Beyssade, 2015).

I suggest that we should test models and develop new ones through experimental and corpus studies, even though conclusions may not always be straightforward. As an example, an experiment on negative polar questions (Arnhold, Braun & Romero, 2021) found that speakers use utterance-final f0 height to mark whether their question is intended to check their own belief or the hearer's. This can be explained by more than one of the reviewed models, even though they make different suggestions for the meaning of boundary tones. Nevertheless, the study illustrates that it is possible to investigate nuances of intonational meaning experimentally. A second methodological point is that even with clear differences, occurrences of intonational forms are never 100% in one condition and 0% in another. Addressing the workshop's other question, I maintain that no such one-to-one correspondence between meaning and intonation should be expected in experiments or everyday conversation.

I further argue that cross-linguistic variation should have a prominent role in discussions of intonational meaning. The basic tenet of linguistic normalcy of intonational meaning and the linguist's theory of intonational meaning is that intonation is a part of grammar. From this, it follows that intonation will vary cross-linguistically not only in the intonational elements (i.e. pitch accents and boundary tones), but also in their meanings. While this is not controversial, it has to my knowledge not been discussed in the literature what exactly this means. Should we expect that related languages share intonational meanings as a rule (compare Peters, 2006, for German, to Pierrehumbert & Hirschberg, 1990, for English) or should we expect a mix or similarities and differences (compare Portes & Beyssade, 2015, on French, to Steedman, 2008, on English)? To what degree do we expect differences not only in the meanings of individual intonational elements, but in the types of meaning encoded intonationally? These questions deserve discussion, as well as assessment through empirical research.

In conclusion, I present the following recommendations for understanding and modeling intonational meaning and intonation's role in conversation and processing: First, experiments and corpus studies should be designed specifically to test models of intonational meaning. Second, it is important not to get discouraged by variability in the data (also see Arvaniti, 2019), for which it may also be helpful to consider multiple prosodic cues (as e.g. in Arnhold, 2011; Arnhold & Kyröläinen, 2017). Third, explicit investigations of intonational meaning should be conducted for a much larger number of languages and dialects than have been considered so far.

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