

## **Rising Pitch as Incompleteness, with Discourse Structuring Effects**

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Scholars have identified various meanings for rising pitch on sentences with declarative syntax, including signaling discourse structure (Pierrehumbert & Hirschberg, 1990), speaker commitments (Gunlogson, 2008) and list structures (Ladd, 1980). I present experimental results showing sentence-final rising pitch can bias the interpretation of ambiguous discourse. Analyzing previous accounts and the new results, I argue for a unified meaning of rising pitch as an incomplete Question Under Discussion (QUD) (Roberts, 1996), here defined as a QUD and its immediate, but not embedded, answers.

The experiment involved ambiguous discourses like (1):

- (1) I sat in on a history class. I read about housing prices. And I watched a cool documentary.

The discourse in (1) could be interpreted such that the narrator read about housing prices and watched a cool documentary in history class (Subord interpretation) or separate from history class (Coord interpretation). In the Subord interpretation, sentences 2 and 3 provide further information, i.e. elaborate, the event described in sentence 1. In the Coord interpretation, each sentence describes a separate event. To create the experimental contrast, sentence 1 was synthetically manipulated to create a rise or fall at the end. Then, 58 participants heard 24 discourses with rising pitch and 24 with falling pitch. Results show that a rise biased participants towards more Coord interpretations relative to a fall ( $p < .001$ ); rises and falls led to 52% and 43% Coord interpretations, respectively. Moreover, participants were more confident in their interpretation when they chose the Coord interpretation after hearing a rise or a Subord interpretation after hearing a fall, compared to the alternative combinations of Coord/fall or Subord/rise.

These results are related to a claim by Pierrehumbert & Hirschberg (1990) that a high boundary tone (H%) conveys information about how sentences are related, providing (2) as an example where the H% conveys elaboration, a subordinating relation.

- (2) (a) The train leaves at seven (H%). (b) It'll be on track four.

I argue that (2a) and (2b) are actually coordinated to each other, serving as partial answers to a QUD. This claim is motivated by the sentences' reversibility, modulo reference, and the ability to introduce a question for which each is a partial answer (e.g. "What do you know about the train to London?"). In this analysis, the H% conveys an incomplete answer to a QUD about a train's departure. Ladd (1980) discusses H% as marking non-final members of a list. Each member of a list serves as a partial answer to the defining feature, or QUD, motivating the list. This account of rising pitch as marking an incomplete QUD also works for rises with questioning force on declarative syntax discussed by Gunlogson (2008). A question that introduces a new QUD and a sentence that is a partial answer to an existing QUD each function as non-final contributions to a QUD. While this account proposes a meaning for rises, it is not claiming that all incomplete QUD positions will necessarily be marked with a rise.

References:

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