

On a concessive reading of the rise-fall-rise contour: contextual and semantic factors

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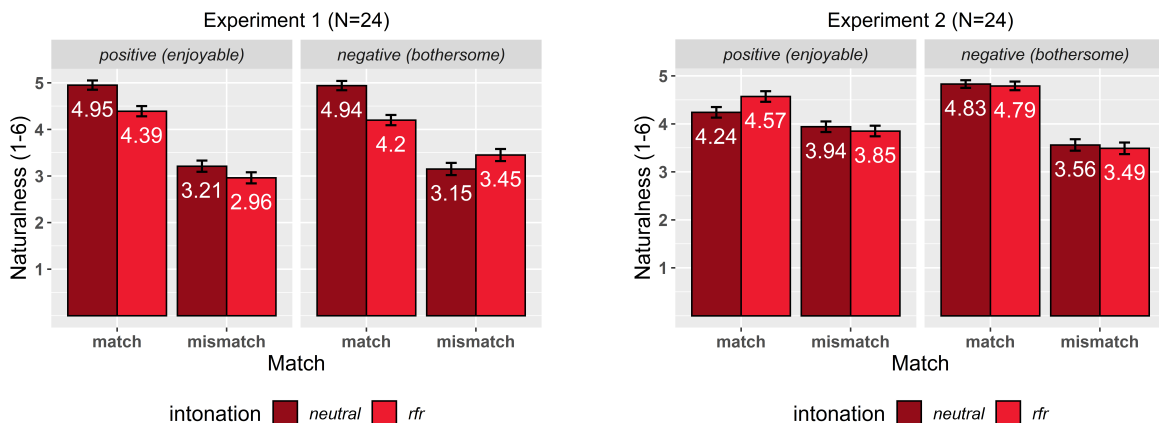
Intro. There are various ways in which intonation can affect the meaning of an utterance. However, the meaning contribution of an intonational contour is often subtle and difficult to capture precisely. A useful formal perspective for certain contours has been to draw a connection to the semantics of Focus and Focus-particles (Constant 2012, Bianchi et al. 2016). Here we investigate two readings of the rise-fall-rise contour (RFR; Ward & Hirschberg 1985) and the contextual factors underlying them by drawing a parallel with an ambiguity of *at least* motivated by three auditory ratings studies.

Background. Prior research on the RFR has mostly focused on its effect in replies to questions, where the contour conveys a sense of uncertainty or incompleteness regarding some alternative (Constant 2012, Wagner 2012, Goodhue et al. 2016). However, there are counterexamples to this characterization where all alternatives are resolved without rendering the contour infelicitous, as in (1) (Wagner 2012). Moreover, the RFR has been argued to show an asymmetry in argumentative dialogues like (2) (Göbel 2019). This asymmetry is surprising given that both replies seem to argue against A’s statement such that any relevant alternative should be equally (un-)certain.

- (1) A: It sucks that Cam didn’t feed all of the cats. - B: She fed SOME of them. [AUDIO]
- (2) a. A: That was a really bothersome hike today. - B: It was sunny. [AUDIO]
- b. A: That was a really enjoyable hike today. - B: ??It was pouring. [AUDIO]

Notably, in (1)-(2) the RFR occurs in reply to a prior assertion. Experiments 1 and 2 were meant to experimentally test the intuition behind (2) and to what extent prior context plays a role.

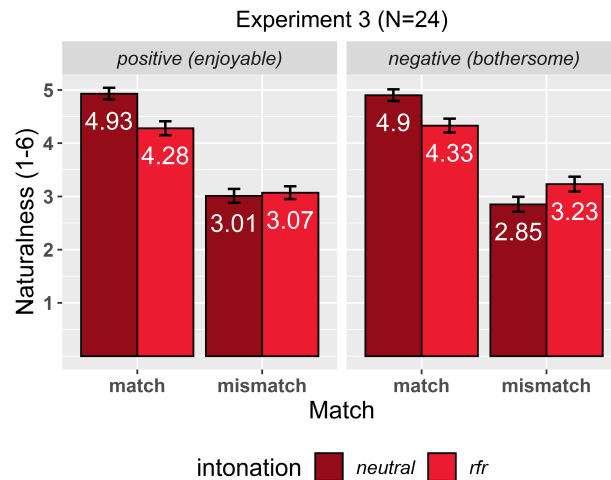
Exp1&2. We used an auditory rating experiment where participants listened to recordings of 8 dialogues like (2), with A’s prompt being either a statement (Exp1) or a question (e.g. *Do you think today’s hike was bothersome/enjoyable?*, Exp2), and rated the naturalness of the dialogue on a scale from 1 (completely unnatural) to 6 (completely natural). Both experiments crossed three factors in a within-subject design: the VALENCE of A’s utterance (negative $\hat{=}$ *bothersome*, positive $\hat{=}$ *enjoyable*); whether the response MATCHED in valence (e.g. *bothersome+pouring*, *enjoyable+sunny*) or not (as in (2)); and the INTONATION of B’s response (neutral vs. rfr). We used ordinal mixed effects models to analyze the data, coding neutral and match as reference levels for their respective factors while VALENCE was Helmert coded. For Experiment 1, there was a large preference for match over mismatch and neutral over rfr, but the decrease for mismatch was ameliorated with the RFR. Crucially, this amelioration was larger when the context was of negative valence. Experiment 2 also showed higher ratings for match than mismatch, but a marginal preference for rfr over neutral and notably only a marginal three-way interaction. Additionally, the mismatch penalty was smaller in positive contexts.



Interim Discussion. The results provide evidence for the existence of a valency asymmetry where the RFR is more acceptable when used in a positive reply than a negative reply. However, this effect seems to be restricted to replies to assertions and is weakened or disappears in replies to questions. We suggest that this context dependency can be understood in terms of an ambiguity similar to that of *at least*, which allows an epistemic interpretation conveying uncertainty (3) and a concessive interpretation conveying an evaluation (4a) (Nakanishi & Rullmann 2009, Biezma 2013, Chen 2018). Interestingly, concessive *at least* also exhibits a valence asymmetry, being prohibited from negative replies to positive statements (4b). We can thus think of the characterization of the RFR from prior research in terms of uncertainty as analogous to epistemic *at least*, while the valence asymmetry in replies to assertions is analogous to concessive *at least*.

- (3) A: Did Cam feed the cats? - B: She fed **at least** SOME of them.
 (4) a. A: That was a really bothersome hike today. - B: **At least** it was sunny.
 b. A: That was a really enjoyable hike today. - B: **#At least** it was pouring.

Exp3 investigated what factors aside from whether the RFR is used in reply to a question or an assertion affect the valence asymmetry, namely by following up on the intuition that adding *also* to the reply weakened the contrast between positive and negative replies. We conducted another auditory rating experiment that only differed from Experiment 1 in that the replies contained *also*. The results patterned largely like those of Experiment 1, with higher ratings for match than mismatch and neutral than rfr, and the mismatch penalty being smaller with the RFR. However, the three-way interaction was no longer significant, failing to provide evidence for a valence asymmetry.



Final Discussion. The explanation we want to suggest for this effect of *also* is that *also* blocks the concessive reading of the RFR by virtue of restricting the alternatives considered in the computation of the contour to those concerned with truth. As a consequence, the RFR no longer conveys valence but merely that a higher alternative is possibly true, which is compatible with both prior assertions. On this account, the meaning of an intonational contour like the RFR thus makes use of the same types of alternatives as those required by a Focus-particle like *also* rather than being calculated separately, for instance as a conventional implicature à la Constant (2012). Our investigation thus sheds light on issues of semantic composition that go beyond the refinement of the contribution of the RFR while highlighting the usefulness of drawing connections to insights on Focus-particles. A remaining open issue concerns the cause of the smaller decrease for a mismatch in positive contexts in Experiment 2. One possible explanation might be that items differed in the extent to which they provided a clear answer to the question. A follow-up study supported this account, showing that replies in positive contexts were taken by participants to provide weaker confirmation in the match condition and weaker denial in the mismatch condition.

References: Bianchi et al. (2016). *Semantics and Pragmatics* • Biezma (2013). *PLC 36* • Chen (2018). PhD Thesis, Rutgers University • Constant (2012). *Linguistics and Philosophy* • Göbel (2019). *SALT 29* • Goodhue et al. (2016). *NELS 46* • Nakanishi & Rullmann (2009). *CLA 2009* • Wagner (2012). *Semantics and Pragmatics* • Ward & Hirschberg (1985). *Language*