

Intro This talk argues for a distinct contribution of the L*+H pitch accent across two intonational contours, namely the rise-fall-rise (RFR) (e.g. Ward & Hirschberg 1985) as well as a novel contour we will refer to as down-scale contour (DSC) in its interaction with additive particles. We propose that both contours put an ordering on their Focus alternatives but differ in indicating either stronger (RFR) or weaker (DSC) alternatives. This talk thus indirectly supports decompositional accounts of intonational meaning (e.g. Pierrehumbert & Hirschberg 1990) and sheds new light on the relationship between pitch accents and the semantics of Focus.

Rise-fall-rise The RFR, prosodically [L*+H L- H%], has been analyzed as a propositional operator that indicates that at least one alternative to the prejacent can be asserted (Wagner 2012), or that no alternative can be asserted, in addition to disallowing vacuous quantification (Constant 2012). This accounts for the infelicity of association with logically maximal elements in (1) since both *none* and *all* exclude all other alternatives but *some* doesn't. (For recordings, click on AUDIO.)

(1) A: Did you feed the cats? - B: I fed {#NONE/SOME/#ALL} of them. [AUDIO1, 2, 3]

However, when considering *contextual* entailments, the RFR reveals an asymmetry that is unaccounted for by either of the previous analyses. I assume that the first utterances in (2) evoke a scale of “goodness” but differ in placing Dexter either at the bottom (2-a) or the top (2-b) of the scale. While B can use the RFR to indicate a stronger value relative to A (2-a), the reverse is infelicitous (2-b). Critically, neither response is contradictory (3), leaving the asymmetry unexplained.

(2) *Context: Anne and Beth are watching Dexter, a TV-show about a psychopath who satisfies his homicidal urges by killing criminals. In one scene, he donates some money to charity before killing someone. While Anne detests Dexter's actions, Beth sympathizes with him.*

a. A: Dexter is such a horrible person. - B: He gives to CHARITY. [AUDIO]

b. B: Dexter is such a good person. - A: #He MURDERS people. [AUDIO]

(3) a. Dexter is a horrible person but he gives to charity.

b. Dexter is a nice person but he murders people.

Modified Account of the RFR To account for the asymmetry, we modify the analysis by Constant (2012) such that the RFR presupposes the existence of a proposition *q* that is weaker than the prejacent *p* but not logically entailed by *p* (4). The relevant ordering depends on the set of alternatives derived from the QUD. For cases like (2), I assume that the QUD concerns Dexter's goodness (*How good is Dexter?*), evoking a scale of ordered propositions. In (2-a), the weaker proposition that the RFR presupposes would then be *Dexter is a horrible person* with the prejacent indicating that Dexter is not quite as horrible. In contrast, there is no such weaker proposition in (2-b) since B's utterance indicates a proposition with a high value while A indicates a lower one. For responses to questions, such as (1), propositions are ordered in terms of informativity, where *none* is ruled out because there is no weaker alternative, and *all* due to the requirement that the relevant alternative cannot be entailed by the prejacent.

(4) $[[\text{RFR}]](Q_{\langle s, \langle \langle s, t \rangle, t \rangle \rangle})(p_{\langle s, t \rangle})(w): \exists q[q \in Q(w) \ \& \ p \not\Rightarrow q \ \& \ q < p \ \wedge \ q(w)]. p(w)$

Contrasting Additives & the Down-scale Contour Despite the unavailability of the RFR in (2-b), there is a way to render the exchange felicitous, namely by using pre-verbal *also* (5-a). Interestingly, another additive particle that is often treated on a par, *too*, is infelicitous here, as well as sentence-final *also* for those speakers who accept it otherwise (5-b). However, this contrast in ac-

ceptability only arises with a certain intonation motivated by the context: *also* and *too* are equally acceptable in the - admittedly marked - context in (6). Moreover, the contrast between *also* and *too* depends on the types of predicates involved, with stage-level predicates allowing both (7).

- (5) a. B: Dexter is such a good person. - A: He **ALSO** MURDERS people. [AUDIO]
 b. B: Dexter is such a good person. - A: #He MURDERS people **TOO/ALSO**. [AUDIO 1,2]
- (6) *Context: As in (2), but this time Ann is unopinionated.*
 a. B: Dexter is such a good person. - A: He **ALSO** MURDERS people. [AUDIO]
 b. B: Dexter is such a good person. - A: He MURDERS people **TOO**. [AUDIO]
- (7) A: I don't see what's wrong with Omarosa quitting. She totally supports Trump!
 a. B: She **ALSO** ANTAGONIZES him. [AUDIO]
 b. B: She ANTAGONIZES him **TOO**. [AUDIO]

The results from a pilot production study suggest that there are two critical features of the contours in (5): (i) the second pitch accent is lower than the first, which differs from (6); (ii) the first pitch accent is an L*+H, which differentiates (5-a) and (5-b) (see Figures 1-4). I will refer to the contour in (5-a) as Down-scale Contour (DSC) and characterize it as [L*+H L- !H* L- L%].

DSC as mirror image of RFR Interestingly, the DSC seems to be in complementary distribution with the RFR in contexts like (2): while it is possible to reply to a high value on a relevant scale with a lower value (5-a), the opposite is not possible (8). Consequently, I propose the analysis in (9) which only differs from (4) in the direction of the ordering of *p* and *q*. This similarity points towards a common core of the semantic contribution of the L*+H pitch accent.

(8) A: Dexter is such a horrible person. - B: #He **ALSO** gives to CHARITY. [AUDIO]

(9) $[[DSC]](Q_{\langle s, \langle \langle s, t \rangle, t \rangle \rangle})(p_{\langle s, t \rangle})(w): \exists q[q \in Q(w) \ \& \ p \not\Rightarrow q \wedge q > p \wedge q(w)]. p(w)$

Accounting for Additive Contrast I propose that the difference in acceptability between (5-a) and (5-b) arises due to a difference in relative scope of the DSC and the additive particles, for which I assume the meaning in (10). I further assume that pre-verbal *also* takes higher scope than sentence-final particles, in line with their behavior with respect to negation (11). Thus, I take (5-a) to have the LF in (12), with the innermost part corresponding to an ordered set of propositions that are fed to the DSC operator yielding the presupposition that there is a stronger proposition in the set than the prejacent, which is satisfied. Since ADD scopes over DSC, the relevant set of alternatives for ADD will include DSC but be trivially satisfied by the same proposition that satisfied the DSC.

(10) $[[ADD]](Q_{\langle s, \langle \langle s, t \rangle, t \rangle \rangle})(p_{\langle s, t \rangle})(w): \exists q[q \in Q(w) \ \& \ p \not\Rightarrow q \wedge q(w)]. p(w)$

(11) Emma didn't go to Germany. She (**also**) didn't go to Vietnam (??**too**).

(12) [ADD [DSC [Dexter is a [{ terrible < okay < great }]_F person]]]

In contrast, for the LF of (5-b) in (13), with ADD taking low scope, the set of alternatives for DSC will now include ADD, requiring a proposition stronger than the *conjunction* of the prejacent and the proposition presupposed by ADD, namely *Dexter is a good person*. Thus, the DSC cannot be licensed in this configuration, resulting in infelicity.

(13) [DSC [ADD [Dexter is a [{ terrible < okay < great }]_F person]]]

Lastly, the lack of a contrast in (7) is accounted for separately by the observation that stage-level predicates make for bad scales so that we only get the usual additive meaning. This is supported by the fact that similar sentences in the pilot production study yielded less instances of the L*+H.

Figures:

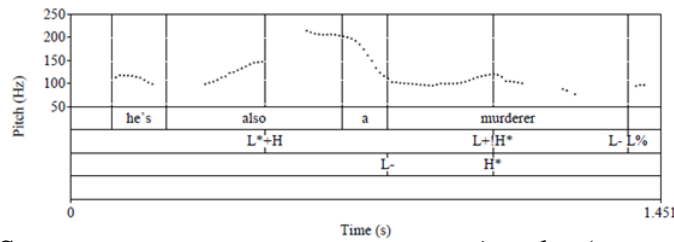


FIGURE 1: SAMPLE PITCH TRACK FOR *contrastive also* (SIMILAR TO (5-A))

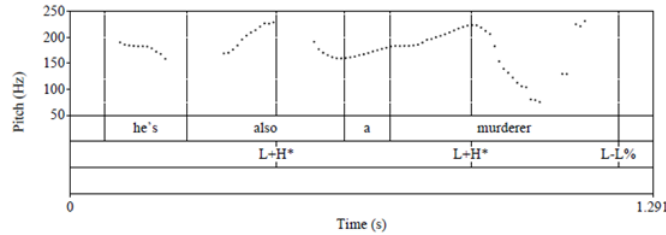


FIGURE 2: SAMPLE PITCH TRACK FOR *non-contrastive also* (SIMILAR TO (6-A))

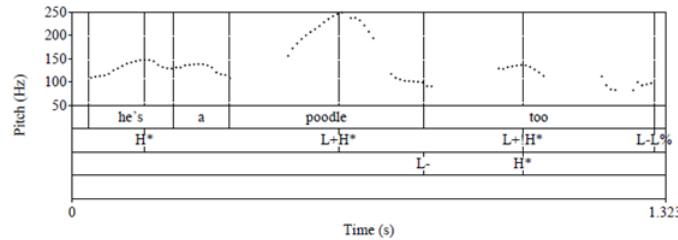


FIGURE 3: SAMPLE PITCH TRACK FOR *contrastive too* (SIMILAR TO (5-B))

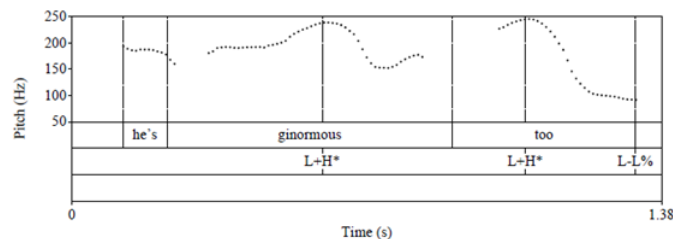


FIGURE 4: SAMPLE PITCH TRACK FOR *non-contrastive too* (SIMILAR TO (6-B))

References:

Constant, N. (2012). English Rise-Fall-Rise: A study in the Semantics and Pragmatics of Intonation. *Linguistics and Philosophy* 35(5), 407-442.

Pierrehumbert, J. B., & J. Hirschberg (1990). The Meaning of Intonational Contours in the Interpretation of Discourse. In: P. R. Cohen, J. L. Morgan, & M. E. Pollack (eds.), *Intentions in Communication*, 271–312. Cambridge, MA: MIT Press.

Wagner, M. (2012). Contrastive Topics Decomposed. *Semantics and Pragmatics* 5(8), 1–54.

Ward, G., & J. Hirschberg. (1985). Implicating Uncertainty: The Pragmatics of Fall-Rise Intonation. *Language* 61(4), 747–776.