

What sentences do

Act 4: Intonation & rising declaratives

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Recap from yesterday

Our goal was to try to *derive* (some) kinds of non-canonical inferences from:

- ✦ A basic discourse effect for sentence types
- ✦ A basic semantics for sentence types
- ✦ Assumptions about what cooperativity means with respect to commitment and projection

However, we have neglected one important aspect of form:

intonation

Today: intonation as a context update modifier

Sentence-level intonation

Some sentence pairs distinguished purely by intonation:

- (1) a. Tomatoes are a fruit.
- b. Tomatoes are a fruit?

And intonation obviously can affect interpretation:

- (2) I won the lottery.

High pitch excursion: Conveys excitement

Low pitch excursion: Conveys neutrality/lack of emotivity

What do we mean by "intonation"?

- ✦ Stress?
- ✦ Pitch?
- ✦ Prosodic phrasing?

Intonational tunes

Sentence level intonation seems to matter a lot. Pierrehumbert's notation:

- ✦ Sentences associated with an abstract intonational pattern, consisting of a sequence of tones
 - ✦ Two levels: **H**igh and **L**ow
 - ✦ One tone in the tune has **nuclear stress** *
 - ✦ One tone in the tune marks the **end of an intonational phrase** %
 - ✦ Other tones: pitch accents, which may consist of a short two-tone sequence (H, L, H-H, H-L, L-L, L-H)

Simplifying assumption for our purposes: the entire tune of a sentence is independently meaningful (rather than compositional)

Examples

From Pierrehumbert & Hirschberg (1990):

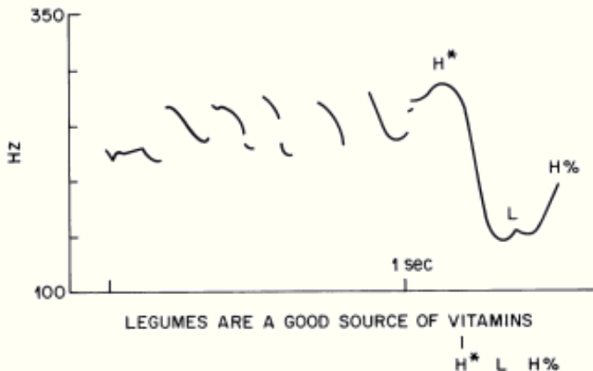


Figure 14.1

Falling-rising pattern on *vitamins*. Reprinted from Pierrehumbert 1980.

Examples

From Pierrehumbert & Hirschberg (1990):

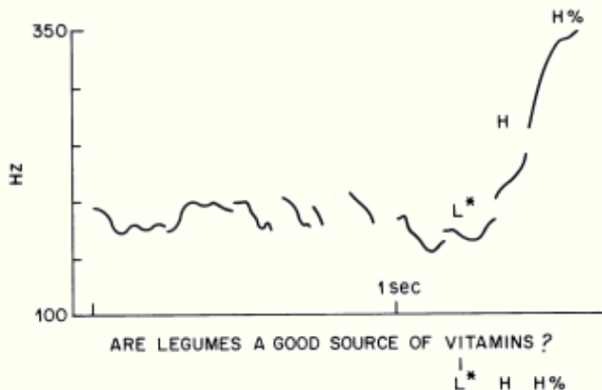


Figure 14.2

Rising pattern on *vitamins*. Reprinted from Pierrehumbert 1980.

Typical intonational tunes

Falling declaratives: H* L-L%

(3) Genevieve is lost at sea.

⇒ Typically assumed to be the unmarked intonational tune

Polar interrogatives: L* H-H%

(4) Are you sure she was on the *Titanic*?

Is there one 'rising declarative'?

Jeong (2018): There are actually two different tunes associated with RDs with distinct meanings

'Inquisitive RDs': L* H-H% (same as polar interrogatives!)

(5) A: Deniz's rendition of 'Wuthering Heights' at karaoke was beautiful.

B: He can sing?

≈ A biased question about whether he can sing

'Assertive RDs': H* H-H%

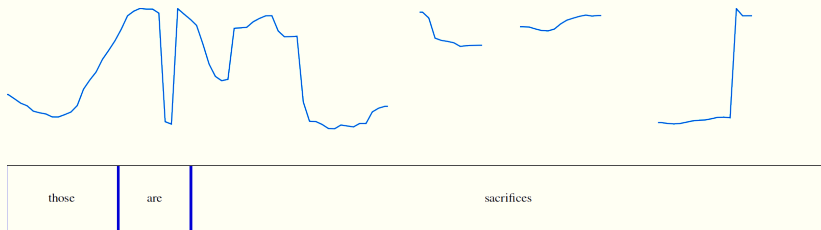
(6) A: Does Deniz have any hidden talents?

B: He can sing?

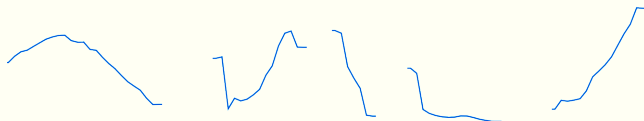
≈ An assertion which B is not sure is relevant/appropriate

(Some debate about whether this is accurate.)

Inquisitive RD depicted



Assertive RD depicted



those

are

sacrifices

For today

Goal: See whether we can account for properties of RDs in our Table model + pragmatics framework.

We'll focus more on inquisitive RDs for a few reasons:

- ✦ They occur more frequently
- ✦ Their meaning is less obviously declarative-like, so they are more of a problem for our theory
- ✦ There is some debate whether the two contours are representationally distinct (see Goodhue 2021)

Properties of Rising Declaratives

Non-assertiveness

RDs don't seem to be trying to convince the addressee of p :

- (7) a. (*A sees Carrie's Instagram story where she talks about being out of work.*)
 A: Carrie got fired↓.
 B: Thanks for letting me know.
- b. A: Carrie got fired↑?
 B: #Thanks for letting me know.
- c. A: Did Carrie get fired?
 B: #Thanks for letting me know.

Addressee solicitation

Like canonical polar interrogatives, RDs can be followed up by positive/negative responses, but not by raising related issues.

- (8) A: Did Laura Palmer die in mysterious circumstances?
B: Yes she did/No she didn't.
B': #Did you know that other high schoolers in the area have gone missing?
- (9) A: Laura Palmer died in mysterious circumstances?
B: Yes she did/No she didn't.
B': #Did you know that other high schoolers in the area have gone missing?
- (10) A: Laura Palmer died in mysterious circumstances.
B: Yes she did/No she didn't.
B': Did you know that other high schoolers in the area have gone missing?

Speaker bias

Speaker often seems to display some expectation that p is true, bias often hard-coded into RD meaning e.g. Krifka (2015); Malamud & Stephenson (2015):

- (11) [*Sp's normally shaggy coworker comes in with a shaved head.*]
You got a haircut? (Gunlogson 2001)
- (12) [*Double-checking dinner plans*]
We're meeting at Bikers Beer Bar at 7?

But RDs are also compatible with negative speaker bias:

- (13) [*Ad is showing Sp the cheap white tube socks she got her girlfriend for Christmas.*]
That's a Christmas present?
- (14) [*Student drawing a syntax tree labels "cat" as a preposition.*]
Teacher: "Cat" is a preposition?

Addressee bias

On the other hand, RDs seem to require *Sp* to require *Ad* bias for *p*:

- (15) [*Sp is talking with his normally shaggy coworker on the phone about grooming habits.*]
#You got a haircut?
- (16) [*Ad is showing Sp the cheap white tube socks she just bought.*]
#That's a Christmas present?

(English) Rising declaratives:

- ✦ Are non-assertive
- ✦ Are compatible with a range of speaker biases, up to just short of full commitment
- ✦ Require addressee bias for p
- ✦ Solicit a response from Ad

Approaches to RDs

Contribution of rising intonation

Option A: Rising intonation signals lack of speaker commitment (in some way)
(Westera 2018; Goodhue 2021; Rudin 2022, a.o.)

- ❖ Rudin: No commitment at all
- ❖ Goodhue: No commitment to some q (by default sentence radical)
- ❖ Westera: Suspension of adherence to Quality

Option B: RDs have special discourse effects, but not compositionally (Gunlogson 2008; Malamud & Stephenson 2015; Farkas & Roelofsen 2017; Jeong 2018, a.o.)

- ❖ Malamud & Stephenson: Rising declaratives put some metalinguistic issue on the Table
- ❖ Gunlogson/Jeong: RDs attribute (projected) commitment to Ad , not Sp
- ❖ Farkas & Roelofsen: RDs conventionally signal Sp 's low credence in p

The road less traveled

Option B is plausible but does not help us much with investigating the form-meaning mapping:

- ✦ Hard-coding construction-level update effects into RDs is in opposition with deriving those effects

Option A provides reasoning with more broad-ranging predictive power.

- ✦ If intonation contributes something *per se* to RDs, perhaps it also does elsewhere

Can we reconcile RD effects with Rudin's maxims, given Option A?

Reminder: Rudin's maxims

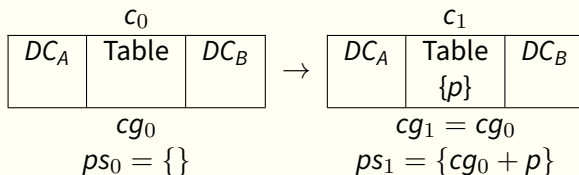
1. SINCERITY: Don't commit to propositions you don't believe
2. PUBLICITY: If you add something to the Table that you believe, commit to it
3. VIABILITY: Don't project future common grounds incompatible with any conversational participant's beliefs/commitments
4. COMPREHENSIVENESS: Don't project future common grounds that rule out extra plausible worlds from the context set

Option A and Rudin's maxims

Commitmentless declarative update

When is this utterance cooperative?

- (17) **Abernathy**, to **Bogart**: *That's a Christmas present?* ($p = \text{that's a Christmas present}$).



RD cooperativity

$p \uparrow$	SIN	PUB	VIA	COMP
$\langle sp(p), ad(p) \rangle$		*		
$\langle sp(p), \neg ad(p) \rangle$		*		
$\langle sp(p), ad(\neg p) \rangle$		*	*	
$\triangleright \langle \neg sp(p), ad(p) \rangle$				
$\langle \neg sp(p), \neg ad(p) \rangle$				*
$\langle \neg sp(p), ad(\neg p) \rangle$			*	*
$\langle sp(\neg p), ad(p) \rangle$			*	
$\langle sp(\neg p), \neg ad(p) \rangle$			*	*
$\langle sp(\neg p), ad(\neg p) \rangle$			*	*

- ★ RDs are felicitously uttered iff Sp has the right beliefs about p and the right beliefs about Ad 's beliefs about p
- ❖ PUBLICITY violated if speaker believes p , since they fail to commit to p
- ❖ VIABILITY violated if either Sp or Ad believes $\neg p$, since $cg + p$ is not a viable future
- ❖ COMPREHENSIVENESS violated unless at least one of Sp and Ad believes p
- ❖ Only remaining option: speaker not sure whether p , Ad believes p

Intuition that rising intonation ‘calls off’ commitment. Does this help us make sense of other cases?

- (18) A: Where should I go on vacation next month?
- a. Go to Des Moines. #Go to Enschede. #Go to Zagreb.
 - b. Go to Des Moines? Go to Enschede? Go to Zagreb?
- (19) a. Do you speak Dutch[↑] or Frisian[↓]?
- b. Do you speak Dutch[↑] or Frisian[↑]?
- (20) a. Are you coming [↓].

Conclusion/open questions

Our emergent framework for utterance interpretation provides a clear slot for intonation as an **update modifier**

- ✦ RDs have a **compositional** discourse effect: what we expect from rising intonation + declarative syntax

Some open problems:

- (21) a. #Who is coming to the party↑?
 b. #How do you change a bike tire↑?

Languages where RDs are ‘neutral’ (no required bias)?

Tomorrow: Cross-linguistic issues in sentential semantics/pragmatics & areas of current research

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