The Meaning of Rising Intonation in Wh-Interrogatives in English?

Nancy Hedberg

SFU

UBC "eh"-lab

Feb. 6, 2019

Previous Research

1. Introduction

- It has been widely agreed that yes-no questions in English tend to rise intonationally, while wh-questions tend to fall.

- Juan Sosa and I, with Lorna Fadden, Emrah Görgülu, and Morgan Mameni, confirmed this pattern in two corpus studies of American English.

- First we looked at yes-no questions, and then at wh-questions.

2. Data, methods and coding

- Our data came from the Callhome Corpus of American English (telephone conversations between people who know each other) and the Fisher [American] English Corpus (telephone conversations between people who do not know each other).
- We analyzed 410 yes-no questions and 200 wh-questions.
- The intonational notation was done using the ToBI system for American English.

2. Data, methods and coding

- ToBI tone categories that we used:
  - Pitch accents
    - H*, L*, L+H*, L*+H, !H*
  - Edge tones:
    - Phrase accents: L-, H-: intermediate phrase.
    - Boundary tones: L%, H%: intonational phrase.

3. Prosodic annotation

- We assumed at the time:
  - The final contour is the major prosodic signal of question meaning.
- Our research confirmed that:
  - The vast majority of yes-no questions are pronounced with some kind of rise (373/410, or 91%).
  - The vast majority of wh-questions are pronounced with some kind of fall (162/200, or 81%).

Topic and Focus

- Hedberg, Nancy, Jeanette K. Gundel and Ron Zacharski. 1995. "Prosodic Tune and Information Structure." Canadian Linguistics Association, Université de Québec à Montréal.

- Gundel, Jeanette K., Nancy Hedberg, and Ron Zacharski. 1995. "Complex Topics and Prosodic Tune." Annual Meeting of the Society for Text and Discourse, Albuquerque, New Mexico.

- Hedberg, Nancy, Jeanette K. Gundel, and Ron Zacharski. 1997. "Topic-Comment Structure, Syntactic Structure and Prosodic Tune". Workshop on Prosody and Grammar in Interaction, University of Helsinki, Finland.

- Sosa, Juan Mañuel and Nancy Hedberg. 2001. "The Prosody of Topic and Focus in Spanish." Linguistic Symposium on Romance Languages XXXI. University of Illinois at Chicago.

- Hedberg, Nancy. 2002. "The Prosody of Contrastive Topic and Focus in Spoken English." Pre-proceedings of the Workshop on Information Structure in Context, IMS, University of Stuttgart. 141-152

- Hedberg, Nancy. 2006. "Topic-Focus Controversies." In Molnár, Valeria and Susanne Winkler , eds. The Architecture of Focus. Studies in Generative Grammar 82. Berlin, New York: Mouton de Gruyter. 373-397.

- Hedberg, Nancy and Juan M. Sosa. 2007. "The Prosody of Topic and Focus in Spontaneous English Dialogue." In Lee, Chungmin, Matthew Gordon and Daniel Büring, eds. 2007. Topic and Focus: Cross-linguistic Perspectives on Meaning and Intonation. Studies in Linguistics and Philosophy, Vol. 82. Dordrecht: Springer. 101-120.

Negation

- Hedberg, Nancy and Juan M. Sosa. 2003. "Pitch Contours in Negative Sentences." Proceedings of the International Congress of Phonetic Sciences (ICPhS), Barcelona, Spain.

- Nancy Hedberg and Malcah Yaeger-Dror. 2008. "The Effect of Informational and Interactive Factors on the Prosodic Prominence of Negation. Annual Meeting of the Linguistic Society of America. Chicago, Illinois,"

Comparing across yes-no questions and wh-questions

- Hedberg, Nancy, Juan M. Sosa and Lorna Fadden. 2004. "Meanings and Configurations of Questions in English". Proceedings of Speech Prosody 2004, Nara, Japan.

- Hedberg, Nancy, Juan M. Sosa and Emrah Görgülü. 2011. On the Meaning of Noncanonical Question Intonation". 2011. Poster presented at Experimental and Theoretical Advances in Prosody (ETAP-2): Prosody in Context. McGill University, Montreal, Quebec, September 23-25.

- Hedberg, Nancy and Juan M. Sosa. 2011 "The Meaning of English Questions with Non-Canonical Intonation". Proceedings of the International Seminar on Prosodic Interfaces, Jawaharlal Nehru University, New Delhi, India.

- Hedberg, Nancy. 2015. "The Meaning of Non-Canonical Question Intonation in American English." German Linguistics Society Workshop on the Prosody and Meaning of (Non-)Canonical Questions across Languages." Leipzig, Germany, March 4-6, 2015.

Intonational meaning is associated with the whole utterance, not just the final contour

- Hedberg, Nancy. 2015. "Larger Prosodic Constructions in Dialogue." Panel on "Prosodic Constructions" for the International Pragmatics Association conference, July,, Antwerp, Belgium. PAPER WITHDRAWN DUE TO FAMILY EMERGENCY.

Intonational meaning is interactional, performs a dialogue move, pragmatic

- Hedberg, Nancy, Juan M. Sosa and Lorna Fadden. 2003. "The Intonation of Contradictions in American English." Pragmatics and Prosody. North West Conference on Linguistics, University of Southern Lancashire, Preston. England.

Prosodic annotation: Yes-no questions

Table 1: Distribution of nuclear contours: Initial classification

Nuclear contour	Percentage	ToBI category	Total N
Low-rise	79.8%	L*H-H%	323
		L*H-↑H%	2
		L*L-H%	2
High-rise	10.7%	H*H-H%	39
		!H*H-H%	5
High-fall	2.4%	H*L-L%	9
		!H*L-L%	1
Rise-fall	1.7%	L+H*L-L%	7
Low-fall	1.5%	L*L-L%	6
Fall-rise	0.5%	H*L-H%	1
		L+H*L-H%	1
Level	3.4%	H*H-L%	8
		!H*H-L%	3
		¡H*H-L%	1
		L*+HH-L%	2
Total	**100%**		**410**

Prosodic annotation: Wh-questions

TABLE 1

NUCLEAR CONTOUR FOR WH-QUESTIONS

| Nucleus	ToBI Category	Number
High Fall	H*LL%	64
	!H*LL%	34
Rise Fall	L+H*LL%	42
	L+!H*LL%	6
	L+¡H*LL%	1
	¡L+H*LL%	1
Low Fall	L*LL%	14
Low Rise	L*HH%	25
	L*H¡H%	1
	L*LH%	1
High Rise	H*HH%	3
	!H*HH%	1
Fall Rise	H*LH%	2
Rise-Fall-Rise	L+H*LH%	2
	L+!H*LH%	1
Level	H*HL%	1
	H*!HL%	1
Total		200

Yes-No Questions

Yes-no questions bibliography

- Hedberg, Nancy, Juan M. Sosa and Lorna Fadden. 2006. "Tonal Constituents and Meanings of Yes-No Questions in American English." Proceedings of Speech Prosody 2006. Dresden, Germany. 386-389.

- Hedberg, Nancy. "Yes-No Questions, Information Structure and Prosody." LIPP Symposium on Clause Syntax, Information Structure, and Discourse Pragmatics, Munich, Germany, June 21-22, 2007.

- Sosa, Juan M. and Nancy Hedberg. Semántica y Entonación de las Preguntas Absolutas del Ingles. ("Semantics and Intonation of Yes-No Questions in English"). Paper presented at the XX Jornadas Lingüisticas de La Asociación de Lingüística y Filología de la América Latina (ALFAL), Caracas, Venezuela, March 6-9, 2008.

- Hedberg, Nancy, Juan M. Sosa and Emrah Görgülü. 2008. "Early and Late Nuclei in Yes-No Questions: Tails or High Rises?" Proceedings of Speech Prosody 2008. Campinas, Brazil.

- Hedberg, Nancy and Juan M. Sosa. 2011. "On the Phonetics of Final Pitch Accents in American English Polar Questions." Proceedings of the International Congress of Phonetic Sciences, Hong Kong.

- Hedberg, Nancy, Juan M. Sosa, and Emrah Görgülü. 2017. "The Meaning and Intonation of Positive Yes-No Questions in American English: A Corpus Study." Corpus Linguistics and Linguistic Theory 13(2). 1-48.

Prosodic annotation: Canonical yes-no questions (Low rise)

- There are 327 low-rises, or 79.8%.
- Often these are pronounced with a downstepped head followed by a low-rise nucleus:

  - Can you **swim**?
             L*H-H%

  - Is **Matt** through **school**?
         H*   L*H-H%

  - Do **you** still **work** for a **veterinarian**?
        H*   !H*   L*H-H%

  - And **do** you have **time** to go **out** and- and **see** them and **enjoy** them?
          H*   !H*   !H*   L*   H-   L*H-H%
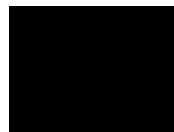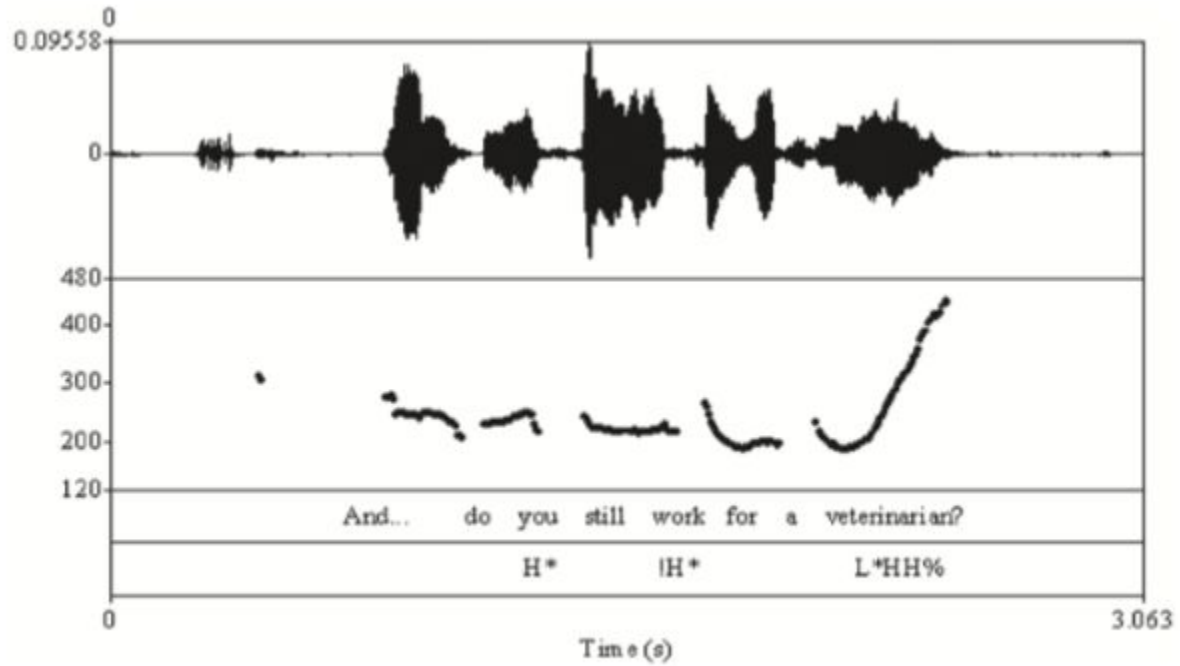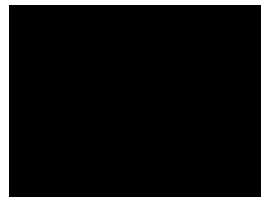
Fig. 1: A low-rise contour

4. Falling yes-no questions

- Banuazizi & Cresswell (1999) classified yes-no questions that fail to conform to one or more of the felicity conditions of the question speech act as "non-genuine" questions.

1. The speaker S must not already know, or believe she knows, the answer to the question she is asking the hearer H.
   [-Commitment?]
2. S must desire a response from H.   **[+Engagement?]**
3. S must believe that H can provide a response.

4. Falling yes-no questions (Low fall)

- (1) is a request for action instead of information, (2) is more or less an announcement, (3) is a backchannel response that B&C would classify as a "discourse marker", and (4) is a question in which a particular answer is clearly expected.

1. Can we **talk** about the **job** things now?
    H*   L*L-L%

2. Did **I**   **tell** you that **I**   have a new **job**?
    L+H* !H*   !H*   L*L-L%

3.   Is **that** right?
     L*L-L%
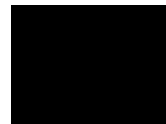
Fall yes-no questions: **High fall**

4. Do you have a **cold**?
   H*L-L%

5. Is it **treatable**?
   H*L-L%
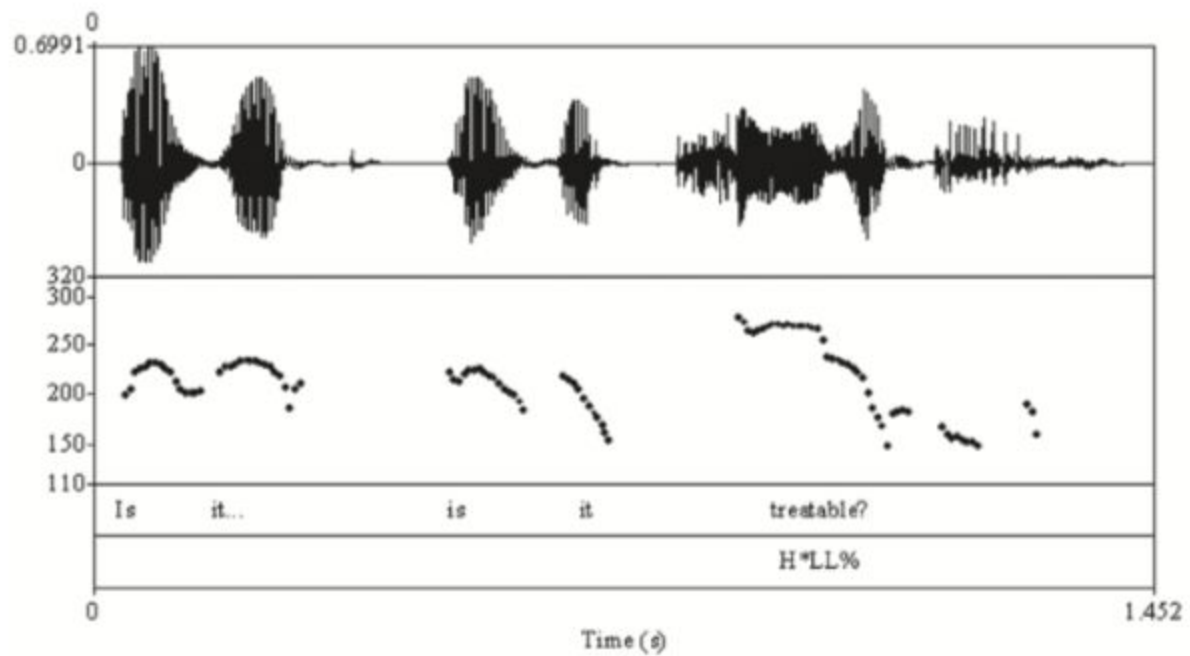
6. Is there **lawyer** in the house?
   L+H*L_L%

Fig. 2: A high-fall contour

4. Falling yes-no questions

- They listened to 3,789 yes-no questions from the Switchboard Corpus and found that 217 or 5.7% were falling. 191/217 falling questions were non-genuine, or 88%.

- We found that 23/410 or 5.6% were falling. 22/23 falling yes-no questions were non-genuine, or 96%.

- We took a random sample of 100 low-rise yes-no questions and found that only 12% were non-genuine.

Table 2: Pragmatic categories of yes-no questions that fall and rise

Category of question	Falling questions	Low-rise questions
Expected response is something other than yes/no.	–	–
Introduction of the assigned topic.	–	–
Introduction of new topics within the conversation.	2	1
Requests couched in question form.	4	–
A particular response is clearly expected.	8	4
Discourse markers.	2	1
Conversation management.	–	–
Quoted or reported questions, or questions in citation form.	2	–
Questions followed immediately by another clause.	1	5
Correction question.	–	–
Jokes.	1	–
Information couched in question form.	2	1
Questions to self.	0	–
Genuine question.	1	84
Total	**23**	**96**

5. High-Level yes-no questions (view in 2019)

- **Confirmation-seeking**

- **Like our Rising WH-Interrogatives:**
  - **Supplementary Information questions**
  - **Clarification questions**
  - **Reminder questions**

- **H*H-L%**

In (33), similarly, the addressee had just said that the speaker had told him already. The speaker is confirming that he had already told him.

(33) *Did I **tell** you **that**?*
           H*   H*HL%

Ladd (1978) detects the same nuance of meaning in the stylized low-rise question in (31), which he characterizes as "used in the middle of a dialog to confirm crucial background information", interrupting a conversation about a mutual acquaintance, and implying that "I realize this is very relevant to what we're talking

about, and I should know, but all of a sudden I'm not sure; could you please confirm?" (p. 528):

(31)   *she*
            Jewish--
     Is

We found that three out of our fourteen level questions had the "confirmation question" quality that Ladd detects in (31). In (32) the addressee mentions that the aunt of his partner had passed away. The speaker wants to know if the aunt died before or after she and the addressee had last talked.

(32) *That, that hadn't happ-,* **had** *that* **happened** *already?*
        L*   H*H-L%

A pitch track of this example is shown in Figure 3. Note the length of the level contour after the nuclear accent on 'happened'.[21]
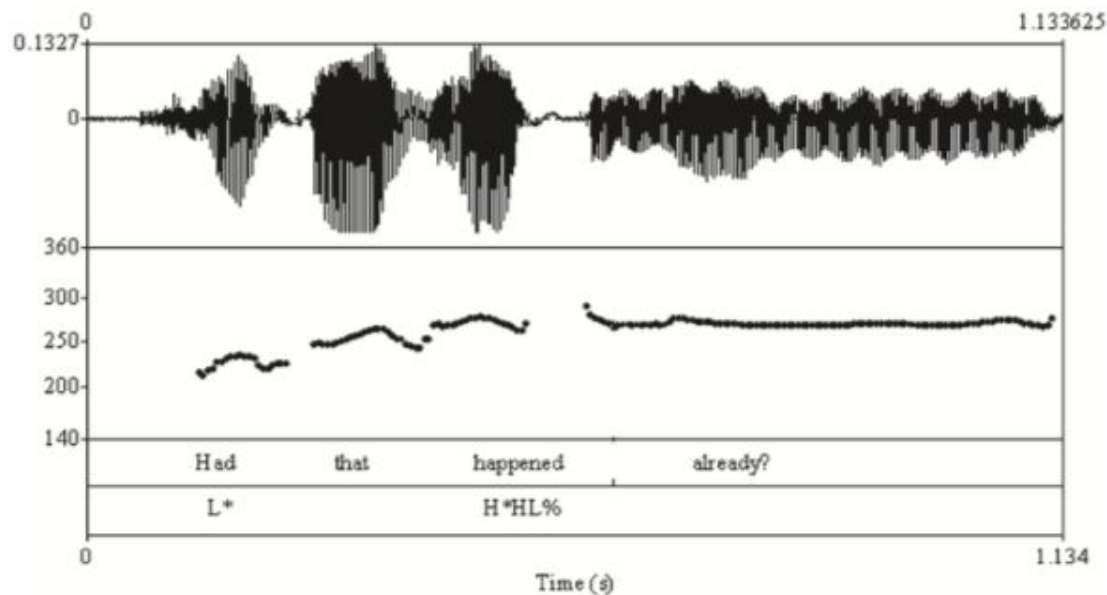

Fig. 3: A high-level contour

6. High-rise yes-no questions (H*H-H%)

- 44/410 or 10.7% of yes-no questions were annotated with a high rise (H*H-H%).

- We couldn't find a distinct function for these questions.

- But we did notice that many of these H* pitch accents occur on words of the type that would often be left unaccented at the end of the intonation phrase:

  – Pronouns

  – Function words, e.g. some adverbs.

  – Second word of a compound noun.

6. High rises: Possible post-nuclear accents

(5) So **have** you been **able** to get **close** to them?
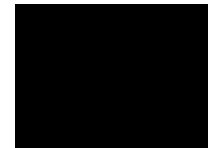   H*   !H*   L*H-H%

(6) Do you **know** them?
             L*   H*H-H%

(7) Can **you believe** that?
        H*   L*H-H%

(8) Could there **be** a **reason** for **that**?
           L*   L*+H   H*H-H%

6. High rises: Possible post-nuclear accents

(9) Did you **get** my **letter** yet?
                  L+H*   L*H-H%
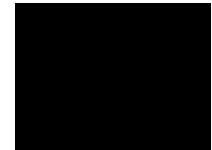
(10) Did **she enjoy** **coming visiting here**?
             H*   L*HH%   H*   L*+H   !H*H-H%

(11) Did I **send** it to **you** on **computer** paper?
              H*   !H*   L*H-!H%

(12) Do y- would you like an **area** **code**?
                              L*+H   H*H-H%

6. High rises: Post-nuclear accents

- Our proposal:
  - Some **L*H-H%** questions in American English associate the H- phrase accent with a post-nuclear stressed syllable, giving rise to an apparent **H*H-H%** tune, but where the pitch accent is really a "post-nuclear accent".

- Grice, Ladd, Arvaniti 2000
  - In the Rise-Fall Question Tune of Greek, Romanian : **L*H-L%**
  - H- phrase-accent peak is attracted to a post-nuclear lexically stressed syllable if there is one, giving rise to a post-nuclear accent.

- Lickley, Schepman, Ladd 2005.
  - In the Fall-Rise Question Tune of German, Dutch: **H*L-H%**
  - L- phrase accent tone is associated to both a post-nuclear lexically stressed syllable and the final syllable.

6. High rises: Near-minimal pairs

(13) Did you **get** my **post** card?
             H*   !H*H-H%

(14) Did you **get** her **post** card?
             L*   L* H*H-H%

(15) 1096.37 1099.60 B: eh Lizzy Lizzy everybody feels that way whose worth his salt.
    1097.98 1099.00 A: (( ))
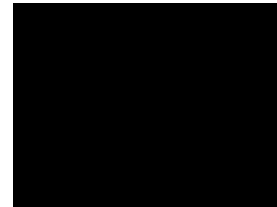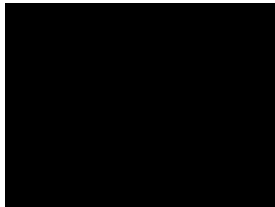   1100.06 1100.83 B: Do you **know** that?
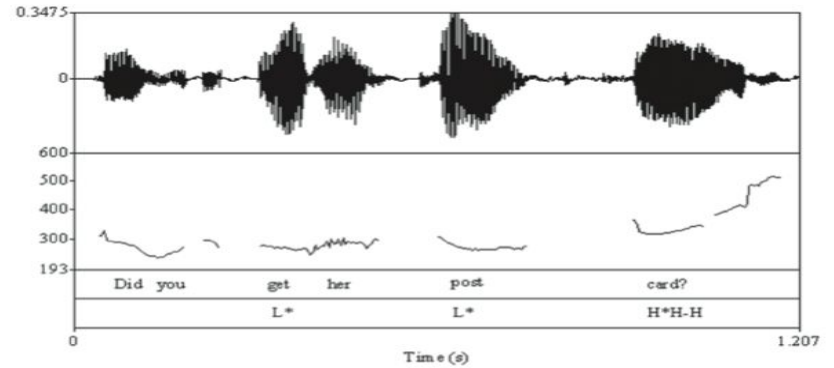   L*H-H%

(16) 289.03 290.07 A: Is he working now?
    290.63 292.55 B: No, in fact he got laid off. Did you **know that**?
                                 H*   H*H-H%

Pitch tracks

Pitch tracks

Do   you   know   that?
L* H-H

Did   you   know   that?
H*   H*H-H
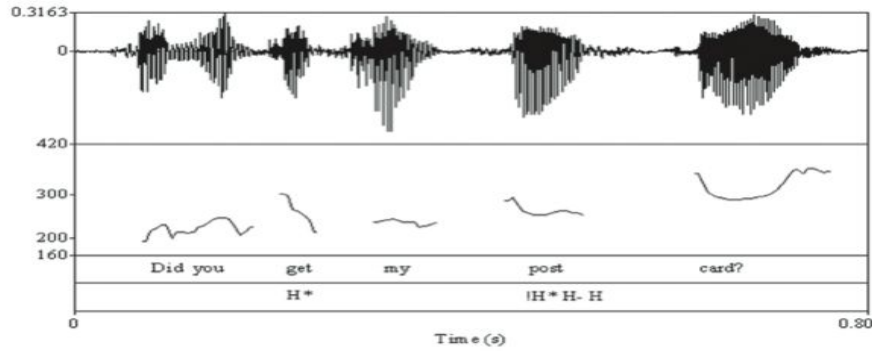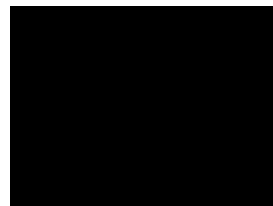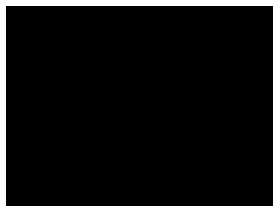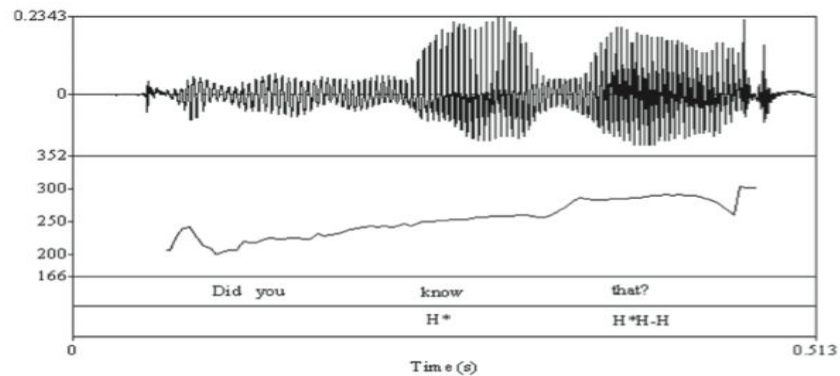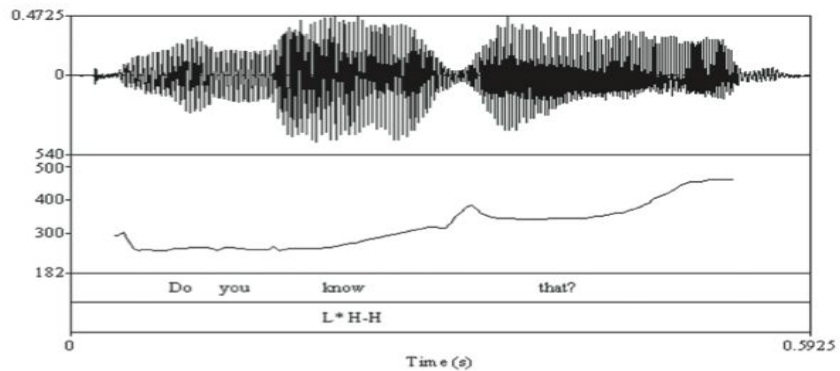
Retrospective View: 2019

- **Contrast marking + Givenness marking?**

- **Interference from Sosa's native language, Spanish?**
    - **Spanish doesn't have deaccenting?**
    - **Spanish doesn't have the compound stress rule?**

Wh-Questions

Bibliography on Wh-questions

- Hedberg, Nancy, Juan M. Sosa, Emrah Görgülü, and Morgan Mameni. 2010. "The Prosody and Meaning of Wh- questions in American English". Proceedings of Speech Prosody 2010, Chicago, Illinois.

- Hedberg, Nancy, Juan M. Sosa, Emrah Görgülü, and Morgan Mameni. 2010. "Prosody and Pragmatics of Wh- Interrogatives." Proceedings of the 2010 Annual Meeting of the Canadian Linguistics Association.

- Hedberg, Nancy and Morgan Mameni. 2010. "The Semantic Function of Rising Wh-Questions". Paper presented at the Meeting of Semanticists Active in Canada (MOSAIC 2). McGill University, Montreal, Québec, June 1, 2010.

7. Pragmatic coding: Wh-questions

For wh-questions, Morgan and Emrah classified the 200 examples according to the dialogue function of the questions. They devised a system of binary features to classify each question along five dimensions.

7. Pragmatic coding: Wh-questions

1. Does the question seek information? (IS)

2. Does the question result in the floor being passed to the other participant? (FP)

3. Does the question serve to change the topic of conversation? (TC)

4. Does the question interrupt the flow of the current speaker's turn? (INT)

5. Is the propositional content of the question already in the conversational record? (IR)

Dialogue Types of Questions

Pragmatic Category	Label	IS	FP	TC	INT	IR
Elaborative Detail	ED	+	-	-	-	-
Floor Deferring	FD	+	+	±	-	-
Directing Information Flow	DIF	+	-	+	-	-
Rhetorical	R	-	±	±	±	±
Supplementary Information	SI	+	-	-	+	-
Topic Initiator	TI	+	±	+	-	-
Reciprocal Question	RQ	+	+	-	-	-
Clarification	CL	+	-	-	±	+
Return to Old Topic	ROT	+	±	+	-	+

7. Pragmatic coding: Wh-questions

- According to these dimensions, Morgan and Emrah identified nine dialogue functions of questions

1. **Elaborative detail:** The question asks for elaboration on the current topic of conversation without taking over the floor.
2. **Floor Deferring:** The question changes the topic by passing the floor to the other participant.
3. **Directing Information Flow:** The question changes the topic without taking over the floor from the other participant.
4. **Rhetorical:** The question is not information seeking.
5. **Supplementary Information:** The questioner interrupts the other participant in order to ask for background information necessary for understanding the current topic.
6. **Topic Initiator:** The question sets a brand new topic of conversation.
7. **Reciprocal Question**: A subset of Floor Deferring questions, whereby the questioner asks the same question he was just asked back to the other participant.
8. **Clarification Question:** The question asks for repetition of information that is already in the conversational record.
9. **Return to Old Topic**: The question changes the topic of conversation by returning to an earlier topic from which the conversation had diverged.

Re-ordering of dialogue-function types: Nancy 2019

1. **Topic Initiator:** The question sets a brand new topic of conversation.
2. **Return to Old Topic**: The question changes the topic of conversation by returning to an earlier topic from which the conversation had diverged.
3. **Directing Information Flow:** The question changes the topic without taking over the floor from the other participant.
4. **Floor Deferring:** The question changes the topic by passing the floor to the other participant.
5. **Reciprocal Question**: A subset of Floor Deferring questions, whereby the questioner asks the same question he was just asked back to the other participant.
6. **Elaborative detail:** The question asks for elaboration on the current topic of conversation without taking over the floor.
7. **Clarification Question:** The question asks for repetition of information that is already in the conversational record.
8. **Supplementary Information:** The questioner interrupts the other participant in order to ask for background information necessary for understanding the current topic.
9. **Rhetorical:** The question is not information seeking.

Pragmatic Category	High Fall	Rise Fall	Low Fall	Rise	Fall Rise	Level	Total
Elaborative Detail	37	12	4	3	2		58
Floor Deferring	15	8		2		1	26
Directing Information Flow	14	11			1		26
Rhetorical	10	8	3	5			26
Supplementary Information	1		1	13			15
Topic Initiator	5	4	2	2	1		14
Reciprocal Question	9	2	1		1		13
CLarification	3	2		6		1	12
Return to Old Topic	2	2	2				6
UNClassified	2	1	1				4
Total	98	50	14	31	5	2	200

Table 3: Pragmatic category and nuclear contour correlation

8. Rising wh-questions

- Non-canonical, rising intonation is typically used for Supplementary Information questions (13/15) and often used for Clarification questions (6/12). These two categories account for 19/31 or 61.3% of rising wh-questions.

- They query the other participant's ongoing contribution, but they don't change the topic and they don't seek to take over the floor, on the contrary.

  [Partial commitment?]
  [Full engagement?]

8. Rising wh-questions

Supplementary Information questions:

(17) [A has been worrying about where she could stay when she visits]
    A: But if not I mean I'm just coming anyway but I have no idea like where I'll go-

   B: **When** are you **planning** on **coming**?
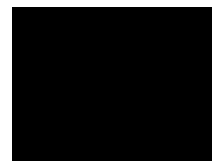   L*+H   !H*   L*H-H%

planning

(18) A: ….And the director's in Detroit.

   B: Yeah, we're all in Detroit but the area directors um travel to the cities that the volunteers are in, and um you know meet with the communities and stuff like that. So-

   A: **What's** your **area** then?
        H*   L*H-H%

8. Rising wh-questions

Clarification questions:

(19) [A is citing an email address while B writes it down]

    A: … dot H I T C.

    B: **What's** after the **dot**?
        L*+H   L*H-H%

(20) A: **Which** did you say you **preferred**?
        H*   L*H-H%

Classified as a Rhetorical question:

(21) [Following a pause in the conversation, A recollects her thoughts]

    A: **What** was I gonna **say**?
        L*+H   H*H-H%
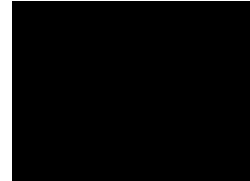
8. Rising wh-questions

- Except for the Rhetorical questions, these rising wh-questions are genuine questions.
- Pragmatically, perhaps the rise serves to politely indicate that the questioner is not seeking to take the floor and that the interruption is necessary in order for the conversation to proceed.

9. Inquisitive semantics analysis: Rising wh-questions

- In listening to rising wh-questions occurring in everyday life, Mameni & Hedberg 2010 proposed a possible semantic function of rising wh-questions.

- I will now explain this semantic function and then extend it to the non-canonical, falling yes-no questions.

9. Inquisitive semantics analysis: Rising wh-questions

- Hamblin 1973 analyzed the semantic denotation of a question as the set of its possible answers, i.e. a set of propositions, each of which is an answer to the question. A proposition is viewed as a set of possible worlds.

- For a yes-no question, this means partitioning the set of possible worlds into two sets: those in which the proposition is true and those in which it is false.

- For a wh-question such as "Who called?", with Peter, Bill and Mary as alternative answers, the question meaning again consists of a set of sets of worlds, those in which Peter called, those in which Bill called, and those in which Mary called.

8. Inquisitive semantics analysis: Rising wh-questions

- Mameni & Hedberg 2010 suggested that the general meaning of rising intonation on wh-questions is to convey that the set of possible answers actually under consideration is relatively small.

- A rising question is possible in (22b), which conveys that the questioner used to know but has forgotten.

  - (22)　A:　Did you hear?　We have a new department secretary.
    B:　a.　Yes, I heard. What's her **name**? ↓
    　　b. Yes, I heard. What's her **name**? ↑

- The rise is not possible in (23b) where the questioner is just learning about the new secretary. The final rise seems to indicate that the questioner already has partial information.

  - (23)　A:　Did you hear?　We have a new department secretary.
    B:　a.　No, I didn't hear.　What's her **name**? ↓
    　　b.　# No, I didn't hear. What's her **name**? ↑

9. Inquisitive semantics analysis: Rising wh-questions

- Even in the case of clarification questions, the questioner has some idea of what the addressee had said—thus the set of possible answers again is not wide open.
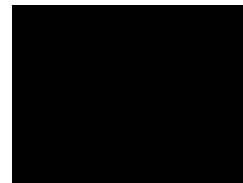
(24) [A is citing an email address while B writes it down]

    A: … dot H I T C

    B: **What's** after the **dot**?

        L*+H   L*H-H%

- In (25), B is not sure what A had said but is sure that it wasn't "London."

(25) A: I visited Tokyo.

    B: **Where** did you **visit**? ↑

    A: London.

    B: That's not what you said!

9. Inquisitive semantics analysis: Rising wh-questions

- In (26), an attested example I heard in everyday life, the speaker confirmed afterwards that he intended to convey that he was familiar with the psychology faculty at York. Again, the questioner has partial information as to the answer.

(26) **Who** did you **work** with at **York**?   [**Presupposition is given?**]
     L+H*   !H*   L*H-H%   [**Partial commitment?**]
                                        [**Full engagement?**]

- This is not a Supplementary Information question because it does not interrupt the other speaker. It is an Elaborative Detail question, but is still pronounced with rising intonation due to the implication of partial information.

9. Inquisitive semantics analysis: Rising wh-questions

- As suggested in Mameni & Hedberg 2010, the compositional denotation of the terminal wh-question rise can thus be viewed as shown in (27a), which conveys the information shown in (27b) when applied to the question in (22b):

(27) a. $[\![\uparrow]\!] = \lambda Q_{<<st>t>}.\ \lambda R_{<<st>t>}.\ R \subseteq Q$

    b. $[\![$**What's her name? $\uparrow]\!] \subseteq [\![$What's her name? $\downarrow]\!]$

- That is, the rising intonation pattern can be seen as signaling that the denotation of the question expressed semantically by the sentence should be mapped to a question with a more restricted domain of possible answers, and that it is this more restricted question that is actually being asked.

9. Inquisitive semantics analysis: Rising wh-questions

- Inquisitive Semantics (Groenendijk & Roelofsen 2009) is a theory of semantics that deals with how different types of sentences, including especially questions, update the common ground.
- A proposition constitutes a proposal to update the common ground in one or more ways.
- An utterance is "inquisitive" if the proposition it expresses allows for more than one way to update the common ground, and an appropriate response will establish one of the proposed updates.
- An utterance is "informative" if it narrows down the set of possibilities.

9. Inquisitive semantics analysis: Rising wh-questions

- We suggested that a wh-question with non-canonical, rising intonation conveys that the update to the common ground being proposed is relatively non-inquisitive compared to what it would have been like if pronounced with canonical intonation.

- In Hedberg & Sosa 2011, we suggested that this account can be extended to yes-no questions with non-canonical, falling intonation.

10. Inquisitive semantics analysis: Falling yes-no questions

- The fall in (28) conveys that the utterance is non-inquisitive, so that the instruction is simply to add "I have a new job" to the common ground:

(28) Did **I**   **tell** you that **I**   have a new **job**?
          L+H* !H*   !H*   L*L-L%   **[a weak assertion]**

- Similarly, (29) is used as a request for action rather than a question. It conveys a single way of updating the common ground, by adding "we will talk about the job things now" to the hearer's "plans set" (Han 2000).

(29) Can we **talk** about the **job** things now?
          H*   L*L-L%   **[a weak command]**

10. Inquisitive semantics analysis: Falling yes-no questions

- Discourse markers like (30) make a comment about the previous conversational contribution and do not establish a choice between two alternative propositions.

    (30) Is **that** right?
    　　　　L*L-L%

- Finally, (31) simply conveys that the speaker is aware that the addressee has a cold and this proposition is placed in the common ground.

    (31) Do you have a **cold**?
    　　　　　　　H*L-L%

10. Inquisitive semantics analysis: Conclusion

- We proposed that non-canonical, falling intonation on yes-no questions signals that the question is relatively non-inquisitive in that it is not seeking a choice between the positive and negative possibilities conveyed by its form. Instead the question is being used e.g. to make a weak assertion or to issue a weak command.

- Non-canonical wh-questions are rising, and convey that the question is relatively non-inquisitive, in that a relatively small set of answers is under consideration.

11. Compositional account: Truckenbrodt 2012

- H- presupposes that the speaker is putting a salient proposition up for question.
  - With a canonical L*H-H% yes-no question, the speaker puts the expressed proposition up for question.
- H* presupposes that the speaker is adding a salient proposition to the common ground.
  - In a canonical H*L-L% wh-question, the absence of H- corresponds to the absence of an obvious proposition put up for question.
  - H* looks for a speaker-asserted salient proposition and finds the existential implicature of the wh-question.

11. Compositional account: Truckenbrodt 2012

- Non-canonical H*L-L% yes-no questions.
  - Use 1: The speaker adds the expressed proposition to the common ground.
    - Does John have a **car** now. I didn't know that. (Bartels 1999)
                        H*L-L%
    - Do you have a **cold**?
                  H*L-L%
  - Use 2: The speaker endorses the associated salient alternative proposition, keeping the addressee to the point.
    - Do you **know** the defendant? (Bartels 1999)
              H*L-L%   [Directing Information Flow]

11. Compositional account: Truckenbrodt 2012

- ## Non-canonical L*L-L% yes-no questions.
    - Did **I**   **tell** you that **I**   have a new **job**?
         L+H* !H*   !H*   L*L-L%

    - Can we **talk** about the **job** things now?
                    H*   L*L-L%

    - Is **that** right?
          L*L-L%
- "The current account is compatible with assigning L* a meaning that is the negation of H* [as in Pierrehumbert and Hirschberg 1990] and with assigning L- a meaning of speaker endorsement [as in Bartels 1999], but there is no clear evidence for either of these moves."

11. Compositional account: Truckenbrodt 2012

- ## Non-canonical H*H-H% yes-no questions.
  - It's not clear whether there are any left in the corpus data.
  - Pierrehumbert & Hirschberg 1990 say that H*H-H% is more likely when the expected answer is 'yes'.

    A: [Showing B how to make a blouse.] This is the left sleeve; and here is the right one.
    B: Is there any **difference** between them? (Bartels 1999)
              H*H-H%
  - "The *content* of the implicature is that there is a difference between them, but the *fact* of the implicature would be 'I suppose there is a difference between them.' Since endorsing the content of the implicature by H* would lead to an interpretation that conflicts with the questioning intention, it is reasonable that H* instead operates on the proposition that corresponds to the *fact* of the implicature….This would correctly represent the weak effect of H* in yes-no questions."   [Not very inquisitive, rhetorical]

11. Compositional account: Truckenbrodt 2012

- Non-canonical L*H-H% wh-questions.

  - **When** are you **planning** on **coming**?
    L*+H   !H*   L*H-H%

  - **Which** did you say you **preferred**?
    H*   L*H-H%

- The friendly rise in wh-questions.

  - A: I was on holiday last month.
    B: Where did you **go**?   (Schubiger 1958)
                  L*H-H%

  - "Following Hintikka 1975 the interpretation of 'where did you go?' would be 'Bring it about that I know where you went.' Putting a propositional form of this up for question results in 'Will you bring it about that I know where you went?' This would seem to add friendliness. It would show that it is up to the addressee to answer."

Preliminary Conclusion

2019

?

Fall	Rise	
S commitment	**H commitment**	[Steedman]
S commitment	**Absence of S commitment**	
[Truckenbrodt]		
S commitment	**H engagement**	[Heim & Wiltschko]
Absence of H engagement	**H engagement**	[Hedberg et al.]
Non-inquisitive	Inquisitive	

The End

References

- Banuazizi, Atissa, and Cassandre Creswell. 1999. Is that a real question? Final rises, final falls and discourse function in question intonation. In CLS 1999 (*Proceedings of the Chicago Linguistic Society*). 1-13.

- Bartels, Christine. 1999. *The Intonation of English Statements and Questions: A Compositional Intepretation.* New York: Garland.

- Grice, M., Ladd, D.R., Arvaniti, A. 2000. On the place of phrase accents in intonational phonology. *Phonology* 17, 143-183.

- Groenendijk, Jeroen and Floris Roelofsen. 2009. Inquisitive semantics and pragmatics. ILLC/Department of Philosophy, University of Amsterdam.

- Hamblin, C. L. 1973. Questions in Montague English. *Foundations of Language* 10. 41-53.

- Han, Chung-hye. 2000. *The Structure and Interpretation of Imperatives*: *Mood and Force in Universal Grammar.* New York & London: Garland Publishing.

- Hedberg, Nancy and Morgan Mameni. 2010. The semantic function of rising wh-questions. Paper presented at MOSAIC-2 (Meeting of Semanticists Active in Canada). McGill University, Montreal, Quebec, Canada, June 1, 2010.

- Hedberg, Nancy and Juan M. Sosa. 2011. A unified account of the meaning of English questions with non-canonical intonation. Paper presented at the International Seminar on Prosodic Interfaces, Jawaharlal Nehru University, New Delhi, India, November 25-27, 2011.

- Hedberg, Nancy, Juan M. Sosa and Emrah Görgülü. 2014. The meaning of intonation in yes-no questions in American English: A corpus study. *Corpus Linguistics and Linguistic Theory*.

- Hedberg, Nancy, Juan M. Sosa, Emrah Görgülü and Morgan Mameni. 2010. Prosody and pragmatics of wh-interrogatives. *Proceedings of the 2010 Meeting of the Canadian Linguistics Association..*

- Hintikka, Jaakko. 1975. Answers to questions. In: H. Hiz (ed.). *Questions*. Dordrecht: Reidel. 279-300.

- Lickley, R. J., Schepman, A., Ladd, D. R. 2005. Alignment of 'phrase accent' lows in Dutch falling-rising questions: Theoretical and methodological implications. *Language and Speech* 48, 157-183.

- Pierrehumbert, Janet B. and Julia Hirschberg. 1990. The meaning of intonational contours in the intepretation of discourse. In P.R. Cohen, J. Morgan and M.E. Pollack (eds.*) Intentions in Communication*. MIT Press. 271-311.

- Schubiger, Maria. 1958. *English Intonation: Its Form and Function*. Tübingen: Niemeyer.

- Truckenbrodt, Hubert. 2012. Semantics of intonation. In C. Maienborn, K. von Heusinger, and P. Portner (eds.*) Semantics: An International Handbook of Natural Language Meaning*. De Gruyter. 2039-2069.

Acknowledgements

- Thanks to my co-investigator, Juan Sosa, and our research assistants on various stages of this project: Lorna Fadden, Sam Al Khatib, Emrah Görgülü, and Morgan Mameni.

- This research was supported by grant #410-2007-0345 from the Social Sciences and Humanities Research Council of Canada.

- As well as several small grants from SFU.