

The Prosody of Contrastive Topic and Focus in Spoken Englishⁱ
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0. Introduction.

Contrastive topics in spoken English are widely considered to have a distinctive pitch accent or tune associated with them, or at least a pitch accent or tune that distinguishes them from focus. Thus, Jackendoff (1972) associated his fall-rise ‘B-accent’ with ‘topic’. He associated a falling ‘A-accent’ with the complementary function of ‘focus.’

- (1) A: Well, what about FRED? What did HE eat?
B: **FRED** ate the BEANS.
B-accent A-accent

Later researchers (e.g. Büring 2002, Kadmon 2001) identify the function of Jackendoff’s B-accent as marking specifically contrastive topics. Other researchers claim that a fall-rise accent is associated with topics in general, whether contrastive or simply new (e.g. Gundel & Fretheim, in press). In addition, Steedman (2000) claims that a fall-rise accent marks his category of ‘theme.’

On the one hand, these different researchers differ from each other in identifying exactly what the prosodic correlate of topic/theme is. Büring (2002: 27) and Kadmon (2001: 380), following Pierrehumbert (1980), suggest that ‘contrastive topics’ are realized by an entire tune, either H* LH% or L+H*LH%. Steedman (2000) associates his ‘theme’ with the pitch accent L+H*. Gundel & Fretheim (in press) also associate L+H* with their notion of ‘topic’. There is thus some controversy concerning the prosodic realization of the topic/theme accent: is it simply a complex pitch accent, L+H*, or is it an entire fall-rise tune, (L+)H*LH%? I won’t attempt to resolve this phonological issue here. Rather I’ll just cite attested examples from natural discourse containing various combinations of pitch accent and boundary tone.

On the other hand, there is also controversy concerning the definition of the information-structure category that this fall-rise accent is purported to mark and concerning which constituents are considered to be marked for this function. For example, Steedman (2000: 659) claims that the question-word in a constituent question is a ‘theme,’ since the question-word evokes but does not restrict a presupposed alternative set. Many other authors treat the question word as the ‘focus’ of the question since, for example, it is not marked by the topic marker in Japanese in information questions, and it appears in the preverbal focus position in Hungarian.

In addition, Steedman (2000b: 662) allows for theme-only sentences, as in (2), but Gundel & Fretheim would claim that every sentence contains a focus, and thus that ‘musicals’ in (2) is the focus:

- (2) Q: Does Marcel love opera?
A: Marcel likes **musicals**.
L+H* LH%

Gundel & Fretheim and Steedman give different informal characterizations of what they mean, respectively, by ‘topic’ and ‘theme,’ and this difference may prove crucial in accounting for differences in their predictions concerning prosody. For Gundel & Fretheim, ‘topic’ corresponds to “what the sentence is about” (p. 2), whereas for Steedman ‘theme’ is “that part of an utterance which connects it to the rest of the discourse.” (p. 655). I would like to suggest that ‘theme’ for Steedman is a broader notion than ‘topic’ for Gundel & Fretheim, and covers some cases that Gundel & Fretheim would label as ‘information focus.’

One solution to this controversy is to factor out two dimensions of information structure, following Vallduvi & Vilkkuna (1998), distinguishing *kontrast* from *rheme*, where ‘rheme’ is the label for information focus in Gundel & Fretheim’s relational sense, whereas ‘kontrast’ covers both contrastive topics and contrastive information foci. Contrastive foci are connected to the rest of the discourse and thus qualify as ‘themes’ in Steedman’s sense. As we will see in a later section of this paper, relying primarily on Chungmin Lee’s work, the Korean ‘topic’-marker (*-nun*) also covers the broader ground that Steedman’s ‘theme’ covers: unaccented, ordinary topics and accented contrastive topics, plus at least some cases of accented contrastive foci, those that connect back to previous discourse. Molnar (2002) also advocates

distinguishing contrast as an “autonomous phenomenon of information structure” (p. 156), and suggests that that it “overlap[s] topicality and focusing in different ways.”

With regard to L+H* marking contrastive topics or contrastive information foci, Pierrehumbert & Hirschberg (1990: 296-297), in fact, state that a speaker employs an L+H* pitch accent to “convey that the accented item—and not some alternative related item—should be mutually believed.” They specifically associate this function with that of indicating ‘contrast,’ and don’t specify that this pitch accent distinctively marks an information structure category such as topic/theme as opposed to focus/rheme. Interestingly, all five examples which they give contain the entire tune L+H*LH% rather than simply the pitch accent L+H* with some other phrase accent and boundary tone. Some of their examples would clearly be treated as marking focus rather than topic according to Gundel & Fretheim, for example (3):

(3) Mother: It’s Raymond and Janet on the phone.
 They want to know if we can come for **dinner**.
 L+H* L H%

(4) A: But how does it [the desk lamp] stand up?
 B: Feel that base.
 It **weighs** a ton.
 L+H* L+H* LH%

While there is no explicit contrast evoked by these utterances in (3) and (4), Pierrehumbert & Hirschberg suggest that in (3), “an invitation to dinner is implicitly related to a space of possible invitations, possible ways to spend the evening, or perhaps simply possible queries.” Similarly, in (4), ‘weighing a ton’ is “one of many possible means by which the lamp might stand up. B commits herself to this from the set of such means.”

The purpose of the present paper is to tackle both the prosodic and semantic/pragmatic side of the controversies concerning information structure categories by exploring natural discourse. I focus specifically on contrasts made in spontaneous dialogue, and explore their prosodic properties according to ToBI labelling (Beckman & Ayers Elam 1997), as well as their semantic and pragmatic properties. I will concentrate on fall-rise only sentences, sentences with explicit or implicit contrasts, negative sentences, and questions.

For data, I rely on a corpus of approximately 15 hours of videotaped episodes of the McLaughlin Group, a weekly half-hour political discussion program aired on the Public Broadcasting Service (PBS) in the United States. Transcripts of the episodes are available on the World Wide Web, which facilitates processing them. On each episode, the host, John McLaughlin, discusses current issues of the day with four journalist guests. The journalists and the host have widely different political beliefs and therefore the discussions get heated, and the speakers produce speech that I believe to be quite spontaneous.

Many of the examples discussed in this paper come from a previous study of the McLaughlin corpus reported on in Hedberg & Sosa (2002a). In this study we were primarily interested in whether we could find support for the idea that the pitch accent L+H* marks topic in English, whereas H* marks focus. We studied 210 phrases from the McLaughlin corpus, and found L+H* distributed across five information-structure categories as shown in (5). Ratified topics are those topics that have already been established as topics, and unratified topics are topics that are just being established with the utterance. These terms come from Lambrecht & Michaelis (1998). The distinction between topic and focus encoded here was intended to correspond to the distinction made by Gundel & Fretheim.

(5)

	L+H*	% out of 42
Ratified Topic	1	2%
Unratified Topic	10	24%
Contrastive Topic	13	31%
Contrastive Focus	11	26%
Plain Focus	6	14%

Hedberg & Sosa concluded that L+H* cannot be concluded to be a topic accent since it is used to mark foci in 17 instances, which isn't very different from the 23 times it is used to mark topics. It was also concluded that topics are frequently marked with pitch accents other than L+H* since only 23 out of 84 topics were marked with L+H* (or 27.4%).

Hedberg & Sosa (2002a) labeled the information structure categories independently of prosody, relying solely on the transcript before it was prosodically annotated. An important methodological problem arises from the possibility that accurate information structure annotation can't be done independently of knowing the speaker's intentions, which might be revealed in the prosody. Gundel & Fretheim (in press) assert that "Relational givenness notions like topic, ..., may be constrained or influenced by the discourse context (as all aspects of meaning are in some sense), but they are not uniquely determined by it." An example of such nondeterminacy from the Hedberg & Sosa data is shown in (6), where it is perhaps preferable to interpret 'Eisenhower' as the subject of an all-focus sentence rather than as a contrastive topic as we had originally interpreted it, since it is the entire event of Eisenhower apologizing that the speaker wants to remind the hearers of.

- (6) Mr. Buchanan: I'll remind you of one thing. **Eisenhower refused** to apologize for the
H* !H HL% H* !H*
U-2, and even blew up a summit, and we were a lot more at fault then.
H* !H* HL% [4/6/01]

Whether the speaker intended his utterance to be a categorical judgment 'about' Eisenhower or athetic judgment concerning an event can't be determined from the transcript alone.

For the most part ignoring this problem, I will compare and contrast the theories of Büring, Kadmon, Steedman, Pierrehumbert & Hirschberg, and Gundel & Fretheim, and will attempt to determine how well they each predict the prosodic properties of the various contrasts and related phrases made by the speakers in the McLaughlin discussions.

1. Fall-Rise Only Sentences

Hetland (2003) cites a similar sentence to that in (3), shown in (7), taken from Ladd (1980), and says about it that 'the cat' in (6A) is new in the relational sense, i.e. constitutes the information focus in English.

- (7) Q: Did you feed the animals?
 A: I fed the ^cat.

It is interesting that (according to Hetland) in German, such sentences would be produced with two pitch accents, a fall-rise on 'cat' and a fall on 'fed', as in (8)

- (8) Q: Hast du die Tiere versorgt?
 Have you the animals looked-after
 A: Die √KATze habe ich ge\FTtert.
 The cat have I fed

According to Hetland, the information-structure organization of this utterance differs between English and German: In German, 'die Katze' constitutes a topic, whereas in English 'the cat' constitutes the focus. The predicate in (8A) is also referentially new, which might account for the accent that falls on it, contrary to the predicate in (7A).

Examples like (7) in English were analyzed by Ward & Hirschberg (1995) as signaling a conventional 'implicature of uncertainty' as to the relevance of the response, and were characterized as involving an L*+HLH% tune rather than an L+H*LH% tune.

Steedman acknowledges Ward & Hirschberg's examples and explanation. He claims that the two contours are difficult to distinguish, and that both serve to establish a theme-only utterance. According to Steedman, in sentences like (2A) and

(7A), the speaker is offering a new theme, “and hence a new rheme alternative set, replacing the one established by the question, without stating a rheme at all” (p. 663).

Ladd (1980) characterizes sentences with only a fall-rise contour in English as marking “focus within a given set”. It can be seen that (7A) conforms to this description, since ‘the cat’ is a member of the set ‘the animals’. Ladd’s characterization of this contour can be seen to fall within Steedman’s informal description of ‘themes’ as “connecting to the rest of the discourse,” but also can be seen to fall within a description of ‘focus’ as opposed to ‘topic’.

Ward & Hirschberg (1985) claim that in several cases focus within a given set may be necessary for their FR [Fall-Rise] intonation contour, but it isn’t sufficient. Furthermore, focus within a set isn’t sufficient in several cases. They conclude that FR is justified when the item accented is related in terms of some salient scalar relationship to some item in the context. For example, (9a) is related to (9b) by Henry VIII being related to Elizabeth on the scale or partially-ordered set (POSET) relation ‘ancestor of’, which is asymmetric, irreflexive and transitive:

- (9) a. Was Elizabeth I an ancestor of Henry VIII?
- b. He was \hers/.

It would be useful to know whether (7A) would be the result of answering the direct question, “Have you fed the animals?” in German, as opposed to ‘Have you looked after the animals?’.

2. Explicit and Implicit Contrasts

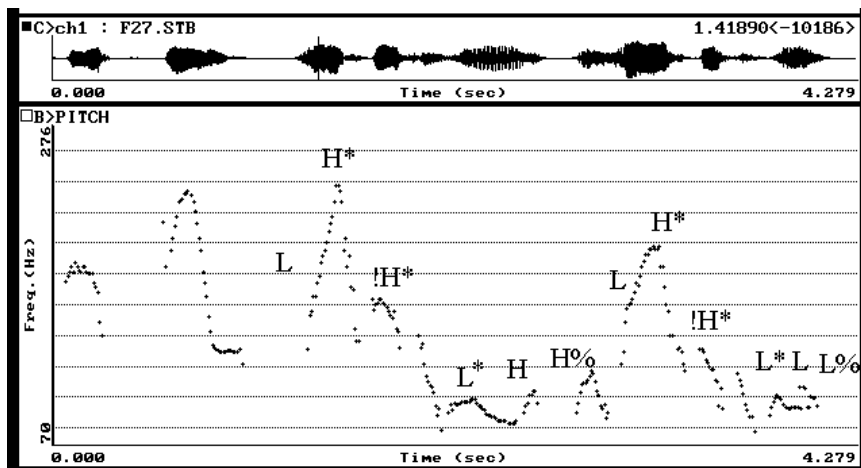
All of the researchers focused on in this paper would predict that the subject phrases in (10) should be marked with a fall-rise accent: since it is quite clear that they are contrastive topics or themes as opposed to foci or rhemes:

- (10) Mr. Kudlow: And we need to drill oil and gas in the Rockies. And **Jeb Bush** is
L+H* !H*
wrong and **George Bush** is **right**; we need to drill in the Gulf of Mexico.
L*H H% L+H* !H* L*LL% [4/20/01]

Here, Gundel & Fretheim’s and Steedman’s claims that it is an L+H* pitch accent rather than an (L+)H*LH% tune that is associated with contrastive topics predicts the data. The topics here do not form intonational phrases on their own, so they are not marked by a boundary tone.

A pitch track for the phonologically coded part of this utterance is presented in (11):

(11)



And Jeb Bush is wrong and George Bush is right
L+H* !H* L*HH% L+H* !H* L*LL%

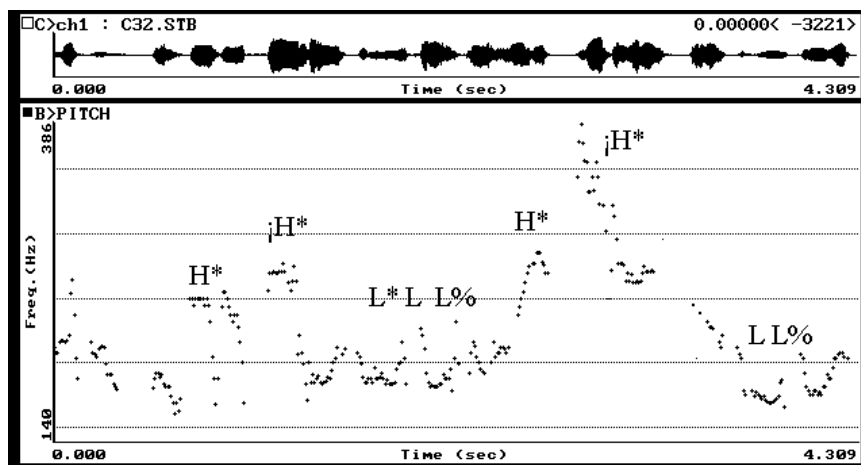
In addition, all of the focused on researchers except Pierrehumbert & Hirschberg would predict that the predicate nominals in (12) should be marked with an H* or a falling accent, since it is clear that they are contrastive foci:

- (12) Mr. McLaughlin: I think we've reached the end of our seminar here today. Exit question: Will the Richard Neave Jesus endure? Michael Barone?
 Mr. Barone: No. This is just a guess.
 Mr. McLaughlin: Eleanor?
 Ms. Clift: I don't think so. This is a **BBC documentary**, **not a PBS documentary**.
H* ;H* L* LL% H* ;H* LL%
 Republicans on Capital Hill would go nuts if this ever showed on PBS.

Gundel & Fretheim and Steedman would here predict that the predicate nominals should be marked with H*, so their predictions are met. ('i' stands for 'upstep'.)

A pitch track for part of utterance (12) is shown in (13):

(13)



*This is a **BBC documentary**, **not a PBS documentary***
H* ;H* L* LL% H* ;H* LL%

The example in (14) is an interesting contrast to (12):

- (14) Mr. Page: Tito will be remembered as a pioneer; the first space tourist. And this is the wave of the future, and NASA, like most bureaucracies, has a difficult time "turning around in the water." It's a **big ship**, **not a speedboat**. Even Dan Goldin, who I admire and respect a great deal --
H* !H*HL% H* H* !H* LH% [4/4/01]

The tune on 'big ship' is a level one and that on 'speedboat' is a fall-rise. Here Büring and Kadmon would predict that the fall-rise on 'speedboat' signals 'contrastive topic'. The issue is whether the fall-rise on 'speedboat' ties it back to the context, as if contradicting a proposition stated or implied that NASA is a 'speedboat.' Steedman (p. 663-664) suggests that H*LH% signals a rheme, due to the H*. He states that the high boundary tone (H%) marks the intonation unit as "the hearer's", as if here the speaker is imputing to the hearer the belief that NASA is a 'speedboat' and then denying this.

Pierrehumbert & Hirschberg (1990) suggest also that there may be conditions having to do with discourse continuation rather than information structure that trigger the high boundary tone here. They say that high boundary tones signal discourse units that are to be interpreted in relation to a subsequent utterance (p. 305).

The predicate adjectives in (10) are also clearly contrastive foci. Here the tune on 'wrong' is rising, perhaps for reasons of discourse continuation, and that on 'right' is a low level tune. The pitch accent L* is characterized in Pierrehumbert &

Hirschberg (1990) as marking “items that S intends to be salient but not to form part of what S is predicating in the utterance.” Here, the predication that Jeb and George Bush hold differing views on drilling in the Gulf of Mexico and what those views are might be analyzed as presupposed, background information, not the primary point to the utterance, which is for Mr. Kudlow to assert that he believes the United States should drill in the Gulf of Mexico.

Example (15) is controversial, since Gundel & Fretheim, at least, would predict that the word ‘celebrity’ is part of the focus and therefore should not be marked L+H*: It is also not explicitly contrastive, and was coded as ‘plain focus’ in Hedberg & Sosa (2002a).

(15) Mr. Kudlow: I have a different view, with all respect. I **think** it **turns** this **guy** into a **celebrity**, and I think that actually encourages more of these heinous actions. [4/20/01]

L+H* !H* L* L+H*LL%

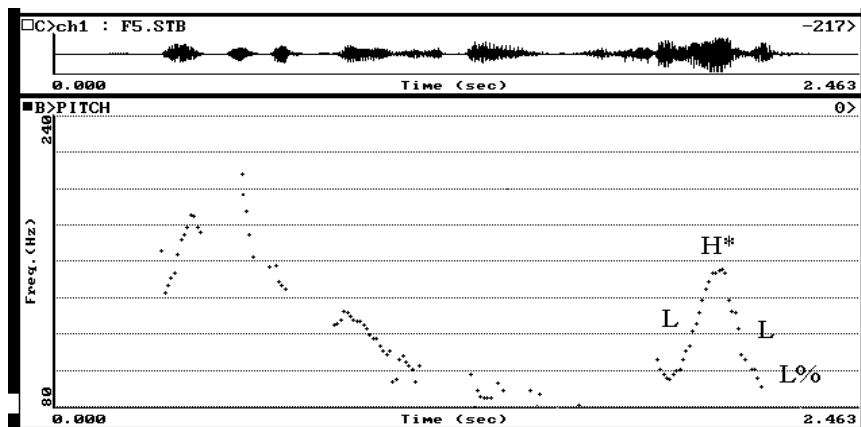
However, Pierrehumbert & Hirschberg (1990) could perhaps claim that it is implicitly contrastive, i.e. that the speaker is contrasting the proposition expressed with the proposition that the media attention around Timothy McVeigh’s execution will function as a deterrent to future similar crimes, which had previously been explicitly brought up.

Somehow they would have to argue that the sense of contrastiveness here is stronger than the contrastiveness that can be argued to be associated with any focus (Bolinger 1961), which is captured in the alternative semantics of focus of Rooth (1996). Hetland (2003) and Molnar (2001) provide some good discussion about the difference between the sense of contrastiveness which can be associated with any focus and that which can be associated with contrast within an explicitly or implicitly limited set of alternatives. As Hetland suggests, even in the absence of explicit alternatives, in English the speaker may signal through intonation (specifically the fall-rise contour) that he is implicitly contrasting a given phrase with other possible alternatives.

Hetland suggests that the speaker may thus be ‘all powerful’ with respect to determining whether a given utterance is contrastive or not. This again raises the methodological problem concerning relying on the context to determine information structure categories independently of prosody or speaker intentions. How can claims about the prosodic correlates of information structure categories be tested if information structure categories cannot be determined independently of prosody or knowledge of speaker intention?

A pitch track for the utterance in (15) is presented in (62):

(16)



I think it turns this guy into a celebrity
L+H*LL%

3. Negative Sentences

In the same study as that discussed above, some L+H* accents, in fact whole L+H*LH% tunes, were classified as contrastive foci by Hedberg & Sosa but this classification was challenged during the question period after the original paper. One such example is shown in (17):

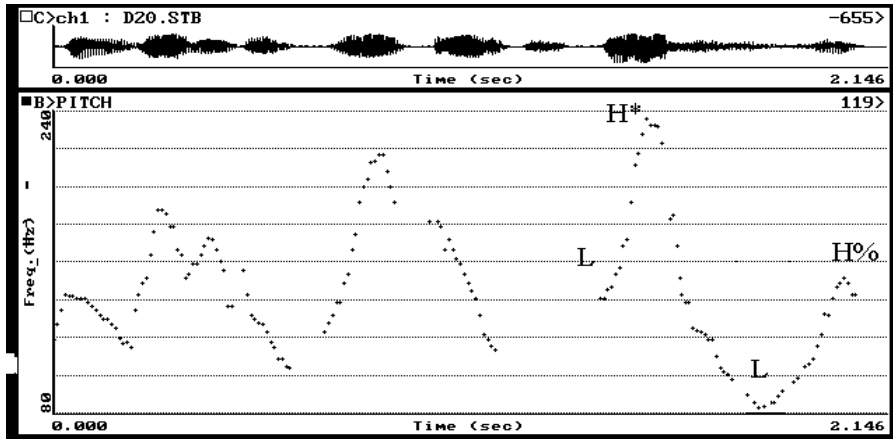
- (17) Mr. McLaughlin: Well, he's been a successful politician, and he's been a successful statesman, has he not?
 Mr. O'Donnell: He's done — the only thing — he was in a box with China. He did the only thing you could do. He **hasn't** done **anything extraordinary**. [4/27/01]
- H* L+H* L+H* LH%

Gundel & Fretheim would here attribute the information structure category of 'focus' to the phrase 'anything extraordinary' and thus not predict that it should be marked L+H*, but Steedman would treat it as a theme since the alternative set {He's done something extraordinary, He hasn't done anything extraordinary} is evoked here and is not restricted by the phrase 'anything extraordinary' itself; rather it is restricted by the word 'hasn't.' Steedman would thus predict the L+H*.

Büring could claim that the primary contextual question here is 'Has George Bush been successful in his first 100 days?' and the complexly strategic question actually evoked is 'Has he done anything extraordinary?' with the word 'hasn't' in the answer functioning as the focus and the phrase 'anything extraordinary' functioning as the contrastive topic. Kadmon could claim a similar analysis.

(18) shows a pitch track for this utterance: It shows the characteristic steep rise on the L+H* accented syllable, then the dip of the phrase accent and the rise to H% boundary tone.

(18)



He hasn't done anything extraordinary.
 L+H*LH%

Another example illustrating the same point is shown in (19)

- (19) Ms. Clift: Well, I think definitions of beauty or handsomeness change over the years, and I, frankly, think this guy is pretty attractive. I **don't** find him **unattractive**. [4/6/01]
- H* L*+H L+H* LH%

It is very interesting that this example is translated into Korean with a topic marker marking the subordinate clause: (20) shows a translation into Korean. (Chung-hye Han, personal communication). This suggests that perhaps the L+H*LH% tune in the English example really is marking a topic.

- (20) na-nun [ku-ka mos sayngkyess-tako-**nun**] saygkakhaci anha-yo.
 I-Top he-Nom un attractive-Comp-**Top** think Neg-Decl
 'I don't think that he is unattractive.'

Another interesting example is (21), where the L+H*LH% tune on 'individual's responsibility' was coded by Hedberg & Sosa (2002) as a contrastive focus.

- (21) Mr. Kudlow: I agree with Cardinal McCarrick of Washington. You know, **vengeance** is
L+H*LL%
God's responsibility, not the individual's responsibility. I don't see any
H* L*+H H* L+H* LH%
 useful purpose even by the people viewing this and, therefore, I wish this whole thing would
 go away. [4/20/01].

Once again, a translation into Korean brings out the possibly topical nature of this phrase because the phrase can be marked with either the nominative marker or the topic marker (Chung-hye Han, personal communication), as shown in (22):

- (22) pokswu-nun sin-uy chaykim-i-ci,
 vengeance-Top God-Gen responsibility-Copula-Decl,

 kyain-uy chaykim-i/**un** ani-ya
 individual-Gen responsibility-Nom/**Top** not-Decl

However, this type of topic marking in Korean may be the type that Lee (1999) calls 'Contrastive Topic' and distinguishes both semantically and prosodically from Thematic Topics. He also distinguishes Contrastive Topic from Exclusive Focus on the grounds that in the case of an Exclusive Focus, a specified or unspecified number of alternatives may be evoked but one is highlighted while the others are 'shadowed'. This is to be distinguished from the clear sense of contrast involved in the case of Contrastive Topics.

Lee (1999) concludes that some Contrastive Topics fall within the restrictive clause part of the tripartite structure and others fall within the nuclear scope. I would suggest following Hajicova et al. (1998) that the former would be topics in Gundel & Fretheim's (in press) sense, while the latter would be foci. An example that Lee gives of the latter is shown in (23):

- (23) a. pi-ka [Nom] o-n-ta
 'Rain is coming' = it's raining.
 b. pi-NUN [CT] o-n-ta
 'Rain-CT is coming' [rain in contrast to snow, or other events]

Hetland (2003) also concludes that the subject in (23b) is actually an information focus in the relational sense.

In closing this section, let us consider one other example of L+H*LH% with extensive citation of the context, shown in (24):

- (24) Mr. Blankley: But Goldin has been a very good bureaucrat; he plays the game very well. He was perfectly glad to let a senator come up, he was perfectly glad to let a teacher--
 Mr. McLaughlin: That was Jake Garn.
 Mr. Blankley: --yeah, a teacher to go up. Unfortunately she, of course, blew up. But when it was politically useful for constituency groups --
 Mr. McLaughlin: Yeah.
 Mr. Blankley: --they went with it. And now that it's not, he's opposed to it. But the problem isn't Tito, the problem is the NASA mentality.
 Mr. McLaughlin: He also let a congressman, Bill Nelson, go up.
 Mr. Page: That's right. No, NASA doesn't mind --

Mr. Barone:	And Senator John Glenn.	
Mr. Page:	Yeah, as a very celebrated trip –	
Mr. McLaughlin:	Of course, Glenn is an astronaut.	
Mr. Page:	Yeah, but –	
Mr. McLaughlin:	But the others are not astronauts . They also --	[5/4/01]
	H* L+H*LH%	

Here, in McLaughlin's last statement, the subject gets marked H* and the predicate gets marked L+H*LH%. In Korean, both Chungmin Lee and Chung-hye Han agreed that this sentence should be translated with a topic marker on 'others', and both agreed that it could be translated with the topic marker on "astronauts", although Lee found this a lot more natural than Han did. The resulting sentence is shown in (25):

(25) mwulon Glenn-un wucwu pihayngsa-i-ci.
of_course Glen-Top space pilot-copula-Decl.

Haciman talun salamtul-un **wucwu pihayngsa-ka/nun** ani-ya
But other people-Top space pilot-Nom/Top not-Decl.

Han says that the *nun*-reading is possible only if "astronauts" is being contrasted with other occupations, i.e. that "among the occupations that we are talking about, the other people have these occupations, but they are not astronauts." She suggests a translation into English using an it-cleft: "it is astronauts that the others are not." The it-cleft suggests that she is thinking of an Exclusive Focus reading here. For Lee, this sentence just contrasts the others being teachers or congressmen, with Glenn being an astronaut, a Contrastive Focus reading I would suggest, although he would call it a Contrastive Topic reading.

The disagreement in terminology is not what's really important here. Rather what's important is the realization that the "Contrastive Topic" marker in Korean and the L+H*LH% marking in English both relate the phrase so marked back to alternatives presented or implied in the context. Thus both fit the definition of 'theme' in Steedman (2000), marking "that part of an utterance which connects it to the rest of the discourse," even though some such marked phrases do not fit the definition of 'topic' given by Gundel & Fretheim (in press), "what the sentence is about." 'Contrast' in the sense of Pierrehumbert & Hirschberg (1990) and 'Kontrast' in the sense of Vallduvi & Vilkuina (1998) both relate the item so marked to the context as does Steedman's 'theme'.

4. Questions.

As mentioned in the introduction, Steedman (2000) analyzes the question word in a wh-question as the 'theme' of the question, thus predicting that it should be marked with the L+H* pitch accent. Supporting this analysis would be Hedberg & Sosa's (2002b) finding that 21 out of 35 wh-question words in their corpus of spontaneous speech, or 60%, were marked with L+H, as for example (26) and (27):

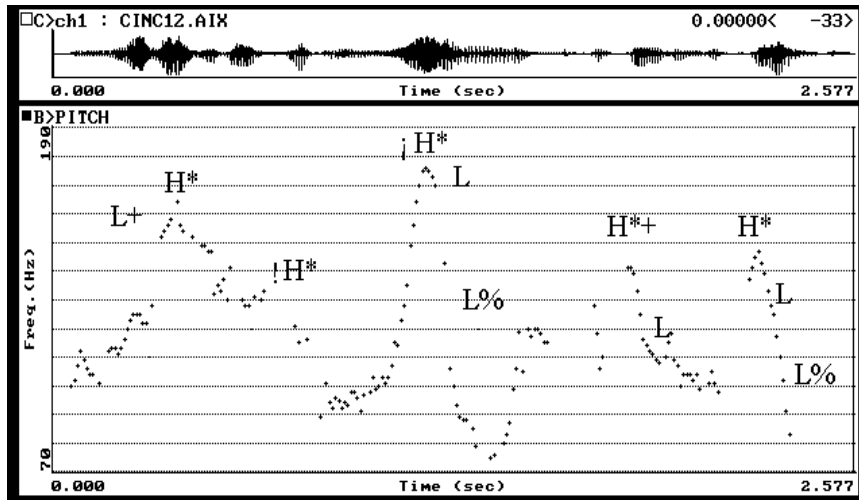
(26) Mr. Duffy: **Why** is it going to **take a year** to **put** it into **place**? [11/16/01, Washington Week]
L+H* !H* ;H*LL% H*+L H*LL%

(27) Mr. McLaughlin: **When** is the **Afghanistan** offensive going to **end**? [11/2/01]
L+H* !H* !H* !H* !H* !H*LL%

However, Gundel & Fretheim would presumably treat the question word as focal, since question words in information questions are never marked by topic markers in languages such as Japanese (Kuno 1972).

A pitch track of the utterance in (26) is shown in (28).

(28)



Why is it going to **take a year** to **put** it into **place**?
 L+H* !H* ¡H*LL% H*+L H*LL%

In Korean, as in Japanese, the topic marker cannot occur on the wh-word in an ordinary information question, as (29) show (Chung-hye Han, personal communication)s.

- (29) *rwukwu-nun party-ey wa-ss-ni?
 rwuk-ka party-ey wa-ss-ni?
 Who-Nom party-to come-Past-Q
 ‘Who came to the party?’

However, it is possible for the topic-marker to occur on the wh-word in a rhetorical question, as in (30):

- (30) nwukwu-nun cohase kongpwuha-ni?
 Who-Top like-because study-Q
 ‘Who studies because he likes to?’
 i.e., ‘Nobody studies because he likes to.’

Lambrecht & Michaelis (1998) also argue for treating the question word as the focus of the an information question. If (26) and (27) are foci, they are counterexample to Gundel & Fretheim’s prosodic claims.

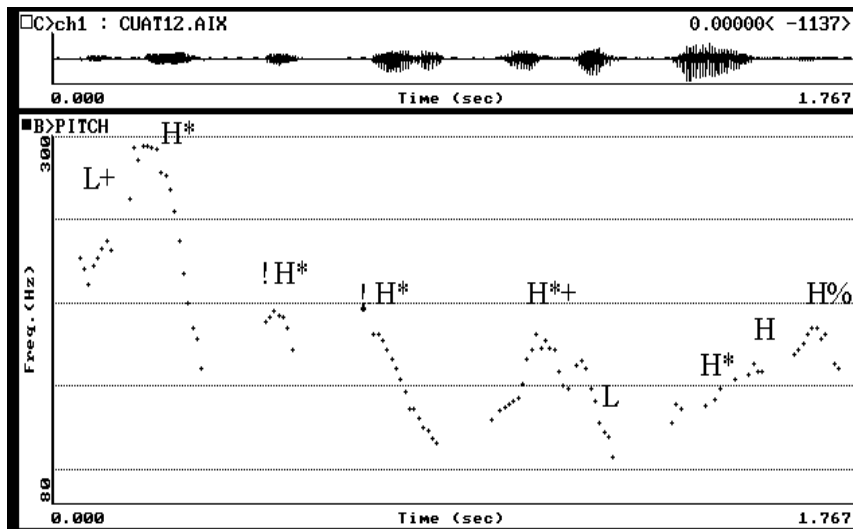
Büring doesn’t address the information structure of questions themselves, but Kadmon does, and for her the focus of a question typically falls in the body of the question. In (26) it would presumably fall on the phrase ‘a year’ since the contrasting questions are {Why is it going to take a month to put it into place?, Why is it going to take a year to put it into place, Why is it going to take two years to put it into place?...}. Her prediction that the focus of this question should be marked with a falling tune is met.

Hedberg & Sosa (2002b) also investigated yes/no questions. Here we were interested in the fronted auxiliary verb since it constitutes the “locus of interrogation” as does the wh-word in a constituent question. Positive yes/no questions turned out not to be marked with a preponderance of any given pitch accent on this element: pitch accents were close to being evenly distributed over H*, L+H* and L*. In fact the auxiliary verb was most frequently unaccented (12 out of 29 cases, or 41.4%). However, fronted negative auxiliaries in negative yes/no questions were most frequently marked with L+H* (8 out of 9 cases, or 88.9%).

An example of one of these negative cases is given in (31), with its pitch track shown in (32):

(31) Mr. McLaughlin: **Isn't that kind of underhanded?**
 L+H* !H* ;H* H*+L H* HH% [11/10/01]

(32)



Isn't that kind of underhanded?
 L+H* !H* ;H* H*+L H* HH%

Romero & Han (2001) suggest that fronted negative auxiliaries bear focus, specifically ‘verum’ focus, or focus on the polarity. Steedman would presumably claim, on the contrary, that the fronted auxiliary is the theme of the yes/no question, and thus would predict the L+H*.

5. Conclusion

The benefit of the approach taken here is that a variety of examples from natural discourse have been compiled and analyzed in comparing both the prosodic claims and the semantic/pragmatic claims of various researchers. The complexities of negative sentences and questions have been explicitly brought up. This has permitted a better understanding of the relationship between the various theories as well as an evaluation of them. Furthermore, functions of intonation other than topic and focus marking, such as continuation marking, have been briefly discussed.

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