

Abstract

We report on a corpus study of the intonation and meaning of 200 spontaneous wh-interrogatives in American English, annotated using ToBI. We define dimensions and categories suitable for explaining the use of wh-interrogatives in discourse and explore the correlation between prosody and pragmatic function of wh-interrogatives.

Data and Methods

- Our data consists of 200 wh-interrogatives from CallHome Corpus of American English and Fisher English Corpus.

- We used Praat (v. 4.4.04) for phonetic analysis and annotated intonation according to ToBI.

- We classified the wh-interrogatives into groups exhibiting different final nuclear contours (See table 1).

- We defined five discourse dimensions which provided our basis for the pragmatic classification of wh-interrogatives.

- We compared the pragmatic classification to the prosodic classification to identify any possible correlations.

Nucleus	Number
High Fall	98
Rise Fall	50
Low Fall	14
Falls subtotal	162
Rise	31
Fall Rise	5
Rises subtotal	36
Level	2
Total	200

Table 1. Nuclear Contours

Pragmatic Dimensions

- We defined five binary dimensions that were relevant for describing the pragmatic function of each wh-interrogative in its immediate environment.

- The dimensions form a cluster of input values (+, -, ±) which output a unique pragmatic category.

- INFORMATION SEEKING (IS): Given the information available in context c, does the question q require a response? This dimension broadly distinguishes information questions from rhetorical questions. (S= Speaker; A= Addressee; I= Interrogator)

- FLOOR_PASS (FP): By asking q, does I intend to pass the floor (if I=S) to A, or does I ask q without claiming the floor (I=A) from S?

- TOPIC_CHANGE (TC): Does q retain the topic of the discourse or change it?

- INTERRUPTION (INT): Does I interrupt the question under discussion?

- IN_RECORD (IR): Does q seek information that is already present in the conversational record, or does it seek new information?

Pragmatic Categories

e.g. Elaborative Detail

S is talking about topic T and H asks a question regarding T to get more detailed information.

(1) [S has been speaking regarding a pending settlement]
 S: You know on the uh you're sitting on the steps waiting for the judge and that's when they settle you know.
 H: yeah. wh- when **when** are you **going to court**?
 H* !H* H*LL%

Floor Deferring

S asks the question to pass the floor to H. Topic can be the same or different.

(2) [S has been talking about a particular TV show]
 S: You know that probably men versus women could work [...]
 What **else** is out there?
 H*LL%

Supplementary Information

H interrupts S without claiming the floor, but merely requests background information.

(3) [S is worrying about *where she could stay when she visits*]
 S: But if not I mean I'm just coming anyway but I have no idea like where I'll go-
 H: **When** are you **planning on coming**?
 L*+H !H* L*HH%

Clarification

S has already provided his email address, but H fails to catch the last bit.

(4) H: **What's** after the **dot**?
 L+H* L*HH%

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	+	-	-	+	+
Returns to Old Topic	ROT	+	±	+	-	+

Table 2. Features of Pragmatic Categories

Correlation Results

Pragmatic Category	Label	High Fall	Rise Fall	Low Fall	Rise	Fall Rise	Level	Total
Elaborative Detail	ED	37	12	4	3	2		58
Floor Deferring	FD	15	8		2		1	26
Directing Information Flow	DIF	14	11			1		26
Rhetorical	R	10	8	3	5			26
Supplementary Information	SI	1		1	13			15
Topic Initiator	TI	5	4	2	2	1		14
Reciprocal Question	RQ	9	2	1		1		13
Clarification	CL	3	2		6		1	12
Returns to Old Topic	ROT	2	2	2				6
Unclassified	UNC	2	1	1				4
Total		98	50	14	31	5	2	200

Table 3. Pragmatic Category and Nuclear Contour Correlation

- The most frequent categories that occur with a falling contour are ED, FD and DIF.
- High-Falls: The most frequent nuclear contour; also the most frequent functions in exact order of frequency, i.e. ED, FD, DIF, R.
- Rise-Falls: Small preference for DIF.
- Rises: Predominantly SI and CL, which notably rarely occur with a falling contour.

Conclusion

- We found that wh-interrogatives occurred with a falling nuclear contour 81% of the time, and with a rising contour 18% of the time.
- Falling interrogatives are most often used to get more detailed information about an ongoing topic, to pass the floor amongst conversational participants, to open up a new subtopic or to influence the development of an ongoing topic.
- Rising interrogatives are most often used for soliciting supplementary information (e.g. request for background information), but are also used for (possibly metalinguistic) clarifications.