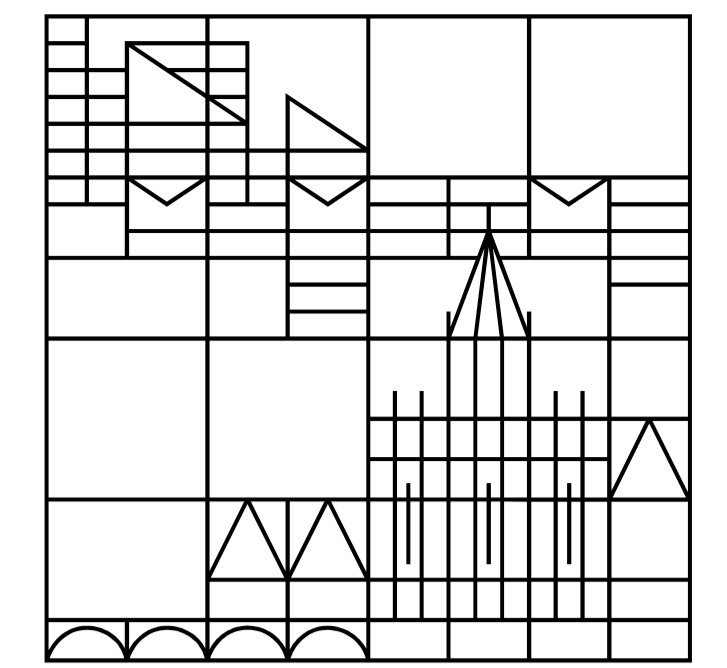


The prosodic marking of rhetorical questions in German



Daniela Wochner, Jana Schlegel, Nicole Dehé, & Bettina Braun

Background:

- **Information-seeking questions (ISQs)** elicit answers (Han, 2002)
- **Rhetorical questions (RQs)** as hybrid type of utterance (Grésillon, 1980), may function as assertion (Sadock, 1971)
 - no knowledge gap (Meibauer, 1986)
- Interrogative syntactic structure vs. assertive function (e.g., Sadock, 1971, 1974) of the opposite polarity (Han, 2002)
 - e.g., *Did he lift a finger to help you?* → suggests: *he did not* → Mismatch between form and function (Rohde, 2006)
- Recognition of correct illocutionary force may be facilitated by discourse situation, lexical triggers (modal particles) and/or prosodic realization of the interrogative
- Little work on prosodic realization: English RQs said to have falling intonation (Han, 2002) → but not supported by experimental results of e.g., Hedberg et al., 2010

Research Questions:

1. Do German RQs have falling intonation, irrespective of their position in the discourse (utterance-medial vs. final)?
2. What phonological and phonetic means do speakers use to mark syntactically ambiguous interrogatives as rhetorical or information-seeking?

Interaction Study: Materials & Methods

- 32 experimental trials: 8 wh-questions (WhQ), 8 polar questions (PolQ)
 - Sentence final objects, mostly sonorant: e.g., *Wer spielt denn **Domino**?* 'Who plays **Domino**?'
- For each interrogative, two short contexts were generated:
 - One that favored an RQ reading, one an ISQ reading
- Target utterance: turn-final or turn-medial position

turn position	polar question		turn position	wh-question	
final	ISQ	RQ	final	ISQ	RQ
medial	ISQ	RQ	medial	ISQ	RQ

Participants:

48 monolingual native German participants (\bar{X} = 21.3 years, 12 male) tested in Speaker (S) - Addressee (A)-pairs; 24 S

Stimuli:

32 target interrogatives (16 RQs, 16 ISQs); 16 filler interrogatives; 5 practice trials

Procedure

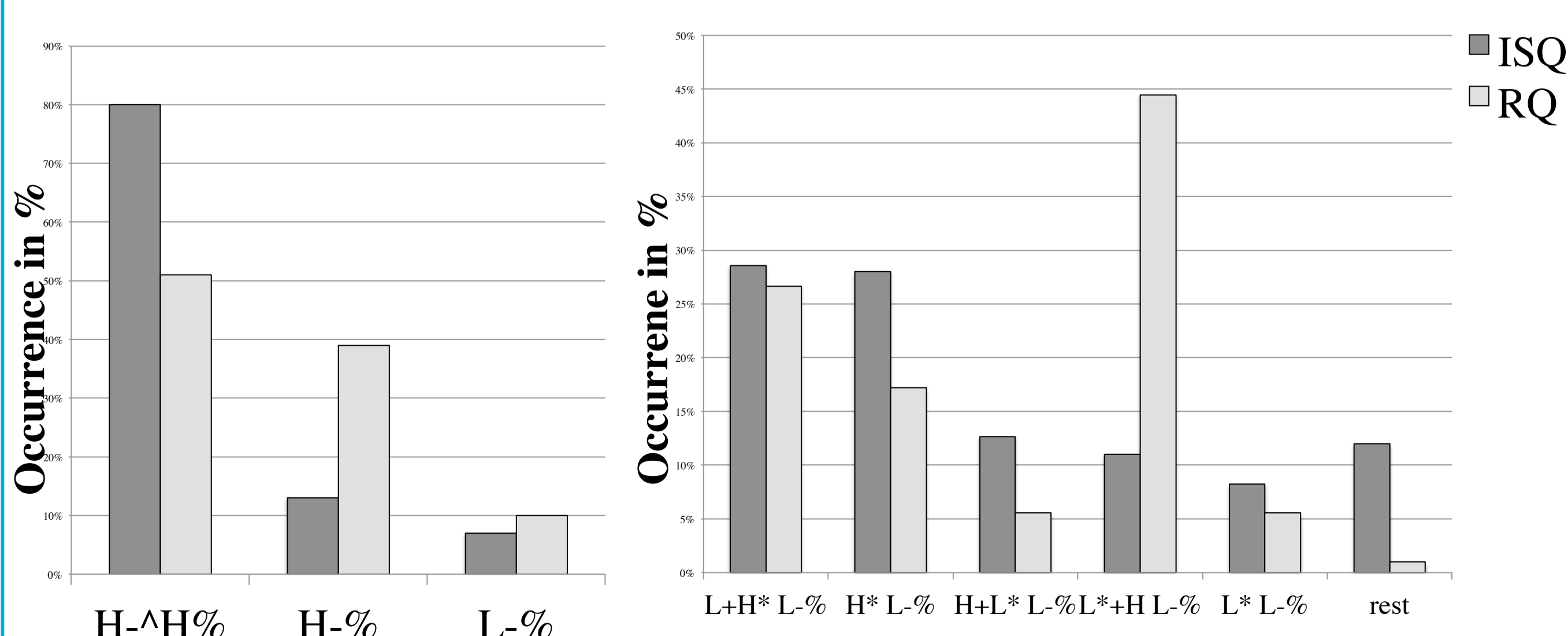
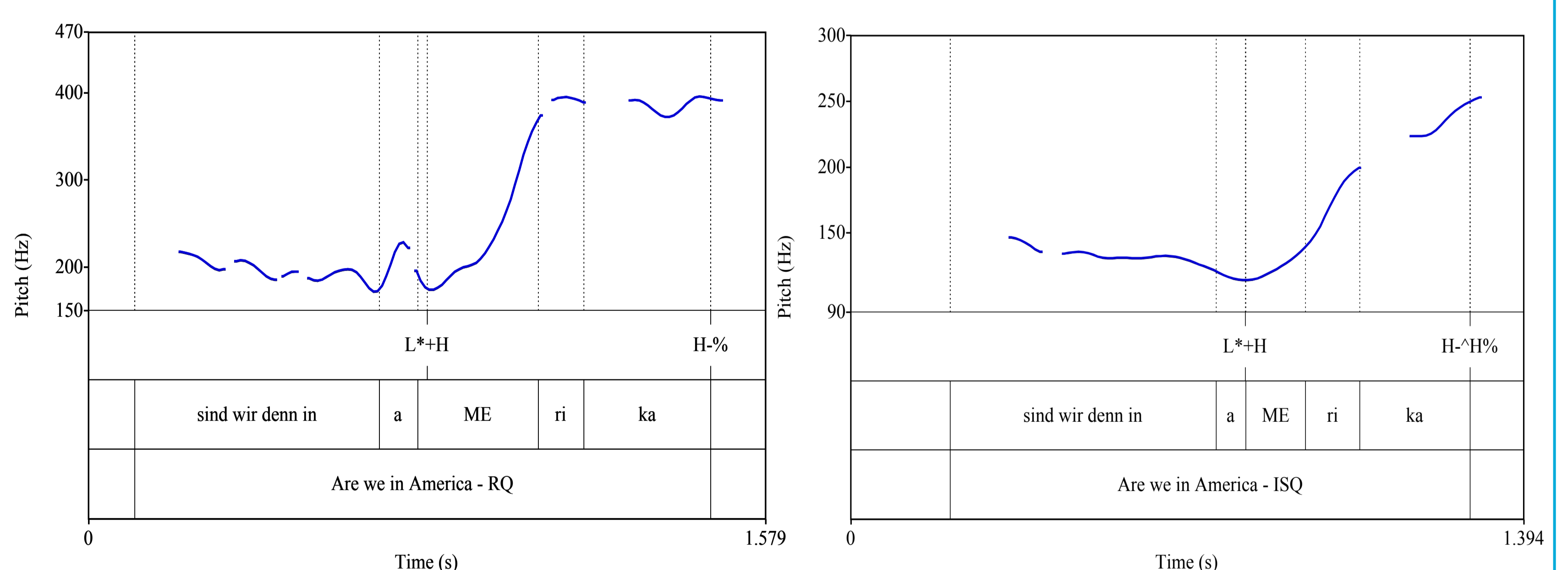
- *Illocution type* manipulated within-subjects, *position* between-subjects
- S and A were presented with different contexts on computer screens
- S produced target interrogatives
- A chose one of two given possibilities as reply } → interactive situation

Phonological results:

- *Final boundary tone*: Rhetorical PolQs often did not rise as strongly as ISQs (higher proportion of H-% compared to H-^H%)
- *Nuclear Pitch accent*: Rhetorical WhQs showed higher proportion of L*+H nuclear accents (44%) than ISQs (10%)

Phonetic results: (✓ = significant difference)

Measured variables	PolQ	WhQ	Results
<i>Initial pitch</i>	✓	✓	On average 9.2 Hz lower in RQs than in ISQs
<i>Overall utterance duration</i>	✓	✓	RQs on average 39.9ms longer than ISQs
<i>Duration sentence final object</i>	✗	✓	3% longer for RQs than for ISQs
<i>Duration wh-word or verb</i>	✗	✓	2% shorter for RQs than for ISQs
<i>Pitch range first constituent</i>	✗	✓	On average 1.6 st narrower for RQs than for ISQs
<i>Spectral tilt (H1-A3) at the center of first vowel</i>	✓	✓	Steeper for RQs than for ISQs → RQs produced with breathier voice than ISQs



Discussion:

- RQs and ISQs differ with respect to prosody
- Differences in distribution of boundary tones and accent types
- Rhetoricity / non-interrogativity already marked early in the utterance
 - Wh-phrase less prominent in RQs than in ISQs
 - Initial pitch lower and speakers' voice softer in RQs
 - Softer voice may serve to attenuate the assertive force of RQs
- Polar RQs are less marked phonetically – rhetoricity is signaled by choice of boundary tone