

Linguistische Berichte

AKTUELLE TENDENZEN IN DER LINGUISTIK

Nicole Dehé, Bettina Braun, Marieke Einfeldt, Daniela Wochner & Katharina Zahner-Ritter: The prosody of rhetorical questions: a cross-linguistic view

BEITRÄGE AUS FORSCHUNG UND ANWENDUNG

Carsten Breul: If a man buys a horse, ... you have no argument against material implication: on a flaw in the foundations of the restrictor approach to conditionals

Niklas Reinken: Funktionalisierte Variation in Handschriften

REZENSIONEN

INFORMATIONEN UND HINWEISE

Linguistische Berichte

Herausgeber

Markus Steinbach (Göttingen)
Günther Grewendorf (Frankfurt a. M.)
Arnim von Stechow (Tübingen)

Redaktion

Nina-Kristin Pendzich
Markus Steinbach

Georg-August-Universität Göttingen
Seminar für Deutsche Philologie
Käte-Hamburger-Weg 3
D-37073 Göttingen
Tel. +49 551 399844
Fax +49 551 39 75 11
E-Mail: lb@uni-goettingen.de

www.buske.de/lb

Beirat

Jannis Androutsopoulos (Hamburg)
Katrín Axel-Tober (Tübingen)
Ursula Bredel (Hildesheim)
Nicole Dehé (Konstanz)
Stefanie Dipper (Bochum)
Christa Dürscheid (Zürich)
Ellen Fricke (Chemnitz)
Sascha Gaglia (Berlin)
Peter Gallmann (Jena)
Hans-Martin Gärtner (Budapest)
Jost Gippert (Frankfurt a. M.)
Katharina Hartmann (Frankfurt a. M.)
Nikolaus Himmelmann (Köln)
Ans van Kemenade (Nijmegen)
Manfred Krifka (Berlin)
Cecilia Poletto (Frankfurt a. M.)
Björn Rothstein (Bochum)
Petra Schumacher (Köln)
Angelika Wöllstein (Mannheim)
Malte Zimmermann (Potsdam)

Auswertung der Zeitschrift u. a. in: BLLDB, CIRC, CSA Arts & Humanities, Dialnet, ERIH PLUS, IBR, IBZ Online, Linguistics and Language Behavior Abstracts, MLA International Bibliography

Erscheinungsweise: Jährlich erscheinen vier Hefte (Februar, Mai, August, November) mit einem Umfang von je ca. 128 Seiten. Zudem kann jährlich ein Sonderheft erscheinen, das den Abonnenten mit einem Nachlass von 15% auf den jeweiligen Ladenpreis geliefert wird.

Preise & Bezugsbedingungen: Das Institutsabonnement (Print- und Onlineausgabe) kostet 330,00 € pro Jahr und das Privatabonnement (Print- und Onlineausgabe) 220,00 €. Die Versandkosten betragen 10,00 € (Inland) bzw. 19,00 € (Ausland). Der Preis für ein Einzelheft beträgt 64,00 €. Kündigungsfrist: Sechs Wochen zum Jahresende.

Hinweise zur Freischaltung und Nutzung der Onlineausgaben (inkl. Archivhefte der letzten Jahrgänge) in der »Buske eLibrary« unter *www.buske.de/ejournals*. Für regelmäßige Informationen abonnieren Sie unseren Zeitschriften-Newsletter unter *www.buske.de/newsletter*.

Neue Abonnements nehmen der
Helmut Buske Verlag, Richardstr. 47,
22081 Hamburg, Tel. +49 40 299958-0,
Fax +49 40 299958-20,
E-Mail: info@buske.de

sowie jede Buchhandlung entgegen.

© 2022 Helmut Buske Verlag GmbH,
Hamburg. ISSN Print: 0024-3930 / ISSN
Online: 2366-0775.

Druck und Bindung: CPI buchbücher.de,
Birkach. Printed in Germany.

Linguistische Berichte

Heft 269

Herausgegeben von
Markus Steinbach,
Günther Grewendorf
und Arnim von Stechow



BUSKE

Aktuelle Tendenzen in der Linguistik

Nicole Dehé, Bettina Braun, Marieke Einfeldt, Daniela Wochner & Katharina Zahner-Ritter The prosody of rhetorical questions: a cross-linguistic view	3
---	---

Beiträge aus Forschung und Anwendung

Carsten Breul If a man buys a horse, ... you have no argument against material implication: on a flaw in the foundations of the restrictor approach to conditionals.....	43
Niklas Reinken Funktionalisierte Variation in Handschriften	55

Rezensionen

Augustin Speyer Sylvie Hancil, Tine Breban & José Vicente Lozano (Hgg.) (2018): <i>New trends in grammaticalization and language change</i>	89
Vincent Balnat Stephan Stein & Sören Stumpf (2019): <i>Muster in Sprache und Kommunikation. Eine Einführung in Konzepte sprachlicher Vor-geformtheit</i>	99
Maurice Hüttemann & Michael Rödel Anica Betz & Angelina Firstein (Hgg.) (2019): <i>Schülerinnen und Schüler Linguistik näher bringen. Perspektiven einer linguistischen Wissenschaftspropädeutik</i>	103

Informationen und Hinweise

LB-Info 269	107
-------------------	-----

The prosody of rhetorical questions: a cross-linguistic view

Nicole Dehé, Bettina Braun, Marieke Einfeldt,
Daniela Wochner & Katharina Zahner-Ritter

Abstract

This paper provides a survey of our knowledge of the prosody of rhetorical questions, i.e. questions that do not require an answer and try to commit the listener to the presupposed answer, as compared to the prosody of string-identical genuine, information seeking-questions. The survey includes semantic literature on questions, corpus data, and experimental evidence from production and perception experiments. It covers a range of typologically different languages (German, English, Icelandic, Italian, Standard Chinese, Cantonese, Japanese, French) that have different word-level and phrase-level characteristics. The main finding is that rhetorical and information-seeking questions differ reliably in terms of the following prosodic characteristics: (i) *f*₀-features (e.g., position and type of pitch accent, type of boundary tone, as well as more global *f*₀-parameters, depending on language type); (ii) duration / speaking rate (rhetorical questions are typically longer / produced with slower speaking rate than information-seeking questions). Often, but not always, rhetorical questions are produced with non-modal voice quality.

1 Introduction

This paper provides a survey of our knowledge of the prosody of rhetorical questions (RQs) as compared to the prosody of information seeking-questions (ISQs).¹ Since the literature on the prosody of RQs is mostly limited to polar (yes/no) questions (1) and *wh*- (constituent) questions (2), the paper focuses on these two question types, leaving other question types (e.g., alternative questions, tag questions) for future studies.

- (1) Polar question
Does anyone like liver?
- (2) *Wh*-question
Who likes liver?

¹ The research presented here was funded by the DFG as part of the research unit ‘Questions at the Interfaces’ (FOR 2111, project P6), of which Bettina Braun and Nicole Dehé are co-PIs (grant numbers BR 3428/4-1 and BR 3428/4-2, and DE 876/3-1 and DE 876/3-2, respectively).

We take a cross-linguistic approach, comparing results from languages with (typologically) different prosodic systems (Jun 2005, 2014). Specifically, we include four head-prominence intonation languages (German, English, Icelandic, Italian), two head-prominence tone languages (Standard Chinese and Cantonese), and two head/edge-prominence languages, one containing a lexically specified pitch accent on about half of the words of the lexicon (Japanese), one without lexical prominence marking (French). This choice of languages is driven foremost by the availability of data.

In the remainder of this introductory section (Sections 1.1 through 1.3), we establish the relevant semantic/pragmatic background on ISQs and RQs and on non-prosodic cues to rhetorical meaning. Section 2 surveys insights from the non-experimental literature. Section 3 outlines the prosody of RQs vs. ISQs for the languages that have been studied experimentally in production and/or perception. Section 4 discusses these results from a cross-linguistic perspective, identifying differences and commonalities in how prosodic cues to rhetorical vs. information-seeking meaning are employed across languages, both within prosodically related languages and across typological boundaries. Finally, Section 5 provides a conclusion and outlook.

1.1 Information-seeking questions

Information-seeking questions (ISQs, also known as neutral, literal, prototypical, or genuine questions) perform the directive speech act of requesting information. According to Krifka (2011: 1747), polar questions “request an answer that specifies whether the proposition expressed by their sentence radical holds or does not hold”; the expected answer may be ‘yes’ (i.e., ‘there is someone who likes liver’ for (1)) or ‘no’ (‘there is nobody who likes liver’) (see also Groenendijk & Stokhof 1984; Karttunen 1977). Semantically, positive polar questions hence denote the set of possible answers (or resolutions) $\{p, \neg p\}$; but see Biezma & Rawlins (2012) for non-neutral ISQs. *Wh*-questions “create an open proposition by leaving parts of the description of the proposition unspecified” (Krifka 2011: 1744). The open parameter is represented by the *wh*-pronoun; information about the open parameter is provided by the expected answer (e.g., the interlocutor would provide the name of a person who likes liver as an answer to the question in (2)). Semantically, a *wh*-question is represented either as a set of propositions that would constitute felicitous answers (Hamblin 1973; Karttunen 1977; Groenendijk & Stokhof 1984) or as an incomplete expression (e.g., Hausser & Zaefferer 1979; von Stechow & Zimmermann 1984).²

² In addition to or instead of seeking information, utterances with interrogative syntax may serve other functions, among them initiating repair, requesting confirmation or offering (Krifka 2011).

1.2 Rhetorical questions

Like ISQs, rhetorical questions (RQs) are formally (i.e., surface-syntactically and semantically) interrogatives, but they differ from ISQs in discourse function. In particular, according to Biezma & Rawlins (2017) and much previous literature, they have three main characteristics. First, RQs do not expect an answer (Banuazizi & Creswell 1999; Hudson 1975; Ilie 1995; Quirk et al. 1985; Wilson & Sperber 1988). Second, RQs have the feel of an assertion (see also Gutiérrez Rexach 1998; Han 2002; Quirk et al. 1985; Rohde 2006; Sadock 1971). Third, RQs do not have to but can optionally be answered (Caponigro & Sprouse 2007; Rohde 2006). As Dehé & Braun (2020b) note, these characteristics are related: if RQs have the force (or the feel) of assertions, then the speaker does not request an answer; however, since RQs are formally questions, an answer is still possible.³

In a corpus study, Rohde (2006) finds that answers to RQs are overwhelmingly confirmations and backchannels, while answers to ISQs are predominantly yes/no-responses (to polar questions) or statements (to *wh*-questions), suggesting that RQs “do not function ... like regular questions but instead express an opinion” to which the addressee may react (Rohde 2006: 143). This fits in with Biezma & Rawlins’ (2017: 304) observation that RQs are often used to “*extract a commitment* to the rhetorical point” from an interlocutor (*italics in original*). Also, while for ISQs there is a high degree of uncertainty as to the answer on the part of the speaker of the ISQ, for RQs there is no uncertainty. Instead, the answer is in the common ground and obvious to all interlocutors (Biezma & Rawlins 2017; Caponigro & Sprouse 2007; Rohde 2006) or is intended to be added to the common ground (Biezma & Rawlins 2017). Biezma & Rawlins (2017: 306f.) further argue that for a question to be interpreted as an RQ, it “must conventionally indicate the speaker’s attitude ... that the question they are asking is *non-inquisitive in context*” (*their italics*). Goto (2018) further notes that there may be a continuum between ISQs and RQs if cues are ambiguous, and that an emotional coloring of the voice (e.g., a sarcastic tone of voice) may lead the listener towards an RQ interpretation.

³ Note that the range of forms that have been subsumed under the label of RQs in the literature is very heterogeneous in form, usage, and semantic meaning. RQs in this wider sense include, among others, monological questions (see Truckenbrodt 2004 for discussion), leading questions (used as rhetorical device for persuasion, e.g. in parliament or courtrooms, cf., e.g., Ilie 1995), RQs used as retorts (Schaffer 2005), and inferentially assertive interrogatives (*So does John have a car then?*, Bartels 1999). The experimental studies reported on below do not include all these forms, uses, and meanings, but are generally restricted to RQs that occur in dialogues and that do not assert their surface propositions. We are aware that this approach inhibits a fully comprehensive account. However, work on the prosody of RQs is generally in its infancy and to this date provides only a very limited set of (types of) RQs and only an incomprehensive account of their prosodic realization.

1.3 Non-prosodic cues to rhetorical meaning of interrogatives

Various cues to information-seeking vs. rhetorical meaning have been identified in the literature. One cue is world knowledge as well as the given situational context. For example, it is common knowledge that the Pope is catholic, thus the question *Is the Pope catholic?* will most likely be interpreted as an RQ (RQ used as retort, see fn. 3) rather than an ISQ (Han 2002). Second, morpho-syntactic cues may serve as cues to rhetorical meaning. For example, polar questions containing strong negative polarity items (NPIs) can only have a rhetorical meaning (see (3a), from Han 2002: 204). In *wh*-questions with weak NPIs that are not c-commanded by the trace of the *wh*-element only the rhetorical meaning is available (see (3b), from Han 2002: 205). For Japanese, Goto (2018: 122) reports that the hearsay construction *to-iu* can be used to signal rhetorical meaning (see (3c)). Goto (2018: 121f.) furthermore mentions the non-referential use of the noun *mono* ‘thing’ as cue to rhetorical meaning in interrogatives; see (3d), which cannot be interpreted as ISQ. For other languages, lexical elements such as particles or adverbials may indicate rhetorical meaning. For English, Han (2002) argues that *after all* may induce rhetorical meaning (see (3e), from Han 2002: 204). In German, optional discourse particles indicate rhetorical meaning. In (3f), for example, from Bayer & Obenauer (2011: 454), *schon* cannot have its lexical meaning ‘already’, but instead marks the question as rhetorical, although here the rhetorical meaning also follows from world knowledge to a certain extent. In less clear contexts, *schon* may have its lexical, temporal meaning. In Chinese, questions with *nandao* have rhetorical meaning; see (3g), from Xu (2012: 509).

- (3) Morpho-syntactic and lexical cues to rhetorical interpretation
- a. Did John lift a finger to help Sam? (No!)
 - b. What has Sam ever contributed to the project? (Nothing!)
 - c. Dare ga shiru to+iu no ka.
Who NOM know QUOT+say NMLZ Q
‘Who do you say knows?’
 - d. Dare ga shit+teiru mono (desu) ka.
Who NOM know+PROG NMLZ (COP) Q
‘Who knows?’
 - e. After all, who helped Mary? (Nobody!)
 - f. Wer zahlt schon gerne Steuern?
Who pays PRT gladly taxes
‘Who likes paying taxes! (Nobody!)’
 - g. Nandao zhe jiushi shichang jingji (me)?
Nandao this be market economy Q
‘Is this a market economy?’ (= This isn’t a market economy.)

However, these cues to RQs (perhaps with the exception of world knowledge and context) may be optional and as a consequence, an RQ may look exactly like an ISQ on the syntactic surface. The questions in (1) and (2), for example, are felicitous as both ISQ and RQ. In informal written language (e.g., Twitter), the rhetorical meaning may be indicated by excessive punctuation (Zymła 2014). Crucially, in oral language, the intended meaning is encoded in the prosodic properties of the relevant interrogative (Biezma & Rawlins 2017; Gutiérrez Rexach 1998). Exactly how this works is the focus of the following sections. It is important to keep in mind from the outset that prosodic cues are not restricted to intonational cues, but comprise phonetic cues such as duration and voice quality, too.

2 Prosodic differences between ISQs and RQs: introspective, theoretical and corpus approaches

The assumption that the difference between ISQs and RQs is cued by intonation is uncontroversial (e.g. Biezma & Rawlins 2017; Cheng 1977; Gutiérrez Rexach 1998; Han 2002). In the semantic literature (e.g. Han 2002), the focus is generally on the intonational realization of the final part of the utterance, i.e., (rise to) high terminus vs. (fall to) low terminus, although assumptions diverge as to the exact realization of the terminus. The opposition between rise and fall is found in particular for English polar questions, which typically have rising intonation when information-seeking (Bartels 1999; Hedberg et al. 2017; Hedberg & Sosa 2002; Pierrehumbert & Hirschberg 1990; Schubiger 1958), but are assumed to be falling when rhetorical (Han 2002). This is related to the assumption that RQs express assertions (like declaratives, whose intonation is also falling, but unlike genuine questions); see Bartels (1999), Han (2002). Corpus studies do not fully confirm this difference between ISQs and RQs argued for in the semantic literature. Banuazizi & Creswell (1999) investigated the intonation of polar questions in telephone conversations in the American English SWITCHBOARD corpus. They analyzed 102 polar RQs and 2106 polar ISQs. Of the 102 polar RQs, only 45 (44.1%) ended in a final fall (L–L%), but 57 (55.9%) ended in a final rise (H–H%). In comparison, in polar ISQs, 89.7% ended in a rise. The case is even less clear for *wh*-questions, because information-seeking *wh*-questions in languages like English and German typically have falling intonation contours (e.g., Bartels 1999; Hedberg & Sosa 2002; Hedberg et al. 2010; Pierrehumbert & Hirschberg 1990; Schubiger 1958 for English; Grice et al. 2005a; Kohler 2004; Oppenrieder 1988; Oppenrieder 1991; von Essen 1964 for German), and RQs are assumed to be falling, too (Bartels 1999). In another corpus study, also for English, Hedberg et al. (2010) analyzed 26 *wh*-RQs. Of these, 21 ended in falling contours but five were rising. However, it is conceivable that the rising non-ISQs in Hedberg et al. (2010) did not come from genuine RQs but from some other kind of non-ISQs, because their set of RQs also comprised back-channel questions and questions to self, i.e., the set of RQs was more like a collection of

non-ISQs than RQs proper. To identify the prosodic properties of RQs, it is important to keep the category ‘clean’. Equally important is a more fine-grained analysis of the prosodic realization, beyond the dichotomy final fall vs. final rise.

Using data drawn from a German TV cooking show, an investigation of the prosody of RQs in German spontaneous speech was carried out as a follow-up on the experimental results reported on in Section 3.1.1 below (Braun et al. 2020). The results show that despite more variation in their prosodic realization, RQs and ISQs in spontaneous speech essentially exhibit the same prosodic characteristics as RQs and ISQs in lab speech; see also Section 4.4 for a methodological discussion. Specifically, RQs were most often realized with a rising (L*+H) nuclear accent in both polar and *wh*-questions. Edge tones differed across question types such that for polar ISQs, the most frequent edge tone was a high-rise (H-^H%), while polar RQs were mostly realized with a mid-high plateau (H-%) or a low-rise (L-H%). *Wh*-ISQs equally often ended in a low edge tone (L-%) or a high rise (H-^H%), while *wh*-RQs most frequently terminated at a low level (L-%). RQs were furthermore produced with a slower speech rate than ISQs.⁴

3 Prosodic differences between ISQs and RQs in production and perception

This section reports on experimental studies on the prosody of RQs in German, English, Icelandic, Italian, Standard Chinese, Cantonese, Japanese and French, mostly in production. Perception data are reported subject to availability (German and Japanese). In line with relevant literature on prosodic typology (Jun 2005, 2014), we divide these languages into head-prominence intonation languages (German, English, Icelandic, Italian; Section 3.1), head-prominence tone languages (Standard Chinese, Cantonese; Section 3.2), and head/edge-prominence languages with lexical pitch accents (Japanese) and post-lexical pitch accents (French), cf. Section 3.3. Section 4 offers a cross-linguistic comparison including all three groups.

⁴ Throughout the paper, we use language-specific annotation conventions in the autosegmental framework (e.g., Pierrehumbert 1980; Ladd 2008). For German, this is GToBI (German ToBI; Grice & Baumann 2002; Grice et al. 2005). For English, we use MAE_ToBI (Beckman & Elam 1997; Beckman et al. 2005). MAE_ToBI differs from GToBI in some specific ways relevant here. For example, the high rising edge tone (GToBI: H-^H%) corresponds to H-H% in MAE_ToBI, and the mid-high plateau H-% in GToBI corresponds to H-L% in MAE_ToBI. The assumption in MAE_ToBI is that the H- phrase accent upsteps L% to a value in the middle of the speaker’s range, and L% is therefore higher than L% in L-L%, and lower than the upstepped H% boundary tone in H-H%. A ToBI framework does not yet exist for Icelandic, however in the annotation given here, we follow previous research in Icelandic intonation (Dehé 2009, 2010, 2018; Déhé & Braun 2020a). For all other languages, we follow the literature referenced in the respective sections.

3.1 Head-prominence intonation languages

Head-prominence languages are languages in which phrase-level prosodic prominence is marked by the phrase head using post-lexical (or intonational) pitch accents associated with the head (Jun 2005, 2014). In intonation languages, f_0 is used to convey meaning at a post-lexical level, e.g., to distinguish between illocution types (e.g., questions vs. statements), or to convey attitudinal or expressive meaning (e.g., surprise, anger) or information structure. Focus and syntactic/semantic groupings are typically marked by pitch accents and/or deaccenting. Along with pitch accents, the pitch at the edge of a prosodic constituent, most prominently the right edge of an utterance or intonational phrase, may be used to convey meaning, e.g., to distinguish between speech acts or express special connotations. For example, in Icelandic, all utterance types are falling to a low terminus by default, but a rising f_0 contour expresses special connotations such as surprise or impatience (Árnason 2005, 2011).

Each head-prominence intonation language has its own inventory of pitch accents. Generally speaking, pitch accent types differ from each other in several respects, including whether they are rising (L^*+H , $L+H^*$) or falling (e.g., H^*+L) or level (monotonal H^* or L^*), and how the tonal targets are aligned with the segmental string. In the context of RQs, we find that two properties of pitch accents are particularly relevant: (i) whether they are bitonal, specifically rising from L to H (L^*+H , $L+H^*$), or monotonal (H^* , L^*), and (ii), within bitonal rising accents, how local low (L) and high (H) targets are aligned with the segmental string (late rise to peak L^*+H vs. early rise to peak $L+H^*$). These differences are illustrated in Figure 1. The syllable shaded grey (*Man*) is the stressed one. Figure 1a shows a (monotonal) peak accent (H^*), which can be distinguished from the rising accents in Figures 1b and 1c based on the absence vs. presence of a sharp f_0 rise leading to H. Figures 1b and 1c are bitonal rising accents, which differ in the alignment of the tonal targets. In the early rise accent (Figure 1b), H is aligned within *Man* (hence $L+H^*$), in the late rise accent (Figure 1c), L is aligned within *Man*, but H is aligned outside the stressed syllable, hence L^*+H .

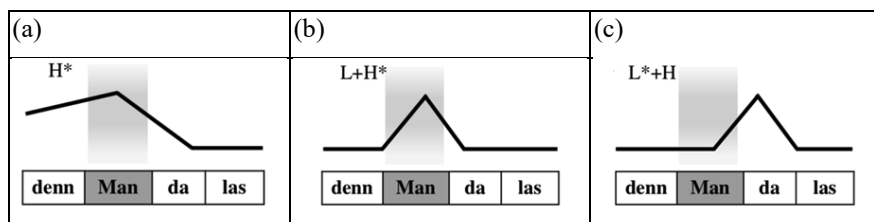


Figure 1: Illustration of monotonal H^* accent (a), bitonal (rising) $L+H^*$ accent (b), and bitonal (rising) L^*+H accent (c); stressed syllable *Man* preceded by particle *denn* and followed by syllables of the same noun (*Mandalas*)

3.1.1 German

German is a verb-second language with verb-first polar questions (see (4)). In standard *wh*-questions (see (5) for a *wh*-subject question), the *wh*-word (or *wh*-phrase) occurs in sentence-initial position.

- (4) Mag jemand Limonen? (German polar question)
 Likes anybody limes
 ‘Does anybody like limes?’
- (5) Wer mag Limonen? (German *wh*-question)
 Who likes limes
 ‘Who likes limes?’

It has been shown for ISQs in German that polar ISQs are commonly realized with a nuclear low-rise (GToBI: L* H-^H%), and *wh*-ISQs are typically realized with a nuclear fall (GToBI: L+H* L-%) in both read and spontaneous speech (Grice et al. 2005a; Kohler 2004; Oppenrieder 1988; Oppenrieder 1991; von Essen 1964).

The prosody of German RQs as compared to string-identical ISQs was first piloted in Wochner et al. (2015) and then systematically tested using a speech production paradigm (Braun et al. 2019). German RQs differ in their prosodic realization from ISQs in several ways. Within polar questions, both illocution types are typically rising. However, while ISQs typically terminate in a high-rise (GToBI: H-^H%), RQs frequently rise to a level not as high, but best described as a mid-high plateau (H-%) (see Table 1 for percentages taken from Braun et al. 2019). A relatively high number of RQs also ended in H-^H%, however there was a strong tendency for the rise in RQ to have a smaller f0-range than in ISQs. If the rise to H-% occurs in polar questions, hearers can be almost 100% sure that RQ is the intended interpretation (see Table 1, row 2). *Wh*-ISQs typically terminate in a final fall (L-%). However, Braun et al. (2019) found that *wh*-ISQs also allowed for a variety of different edge tones, including rising edge tones (L-H%, H-^H%). *Wh*-RQs, on the other hand, were mostly (94% in Braun et al.’s data) realized with a terminal fall (L-%), suggesting that any other edge tone is rather infelicitous. An L-% edge tone is therefore predictive of RQ interpretation at a level of 68% (see Table 1, row 4), and combined with an L*+H nuclear accent, this goes up to 100% (see directly below for nuclear accents). Taken together, the terminus of the utterance (edge tone) clearly plays a role for the distinction between ISQs and RQs in German for both polar and *wh*-questions. Crucially, it emerges that a simple binary distinction between a final rise and a final fall, which has been suggested in some of the semantic literature on the basis that RQs have assertive properties (see Section 2 above), is clearly insufficient (see Braun et al. 2019 for details, as well as the discussion in Section 4.1 below).

Like edge tones, the use of different types of nuclear accents plays an important role to distinguish between ISQs and RQs in German polar and *wh*-questions. In polar ISQs, the typical accent is a low target (L*), in *wh*-ISQs, it is a rise