

## On the prosody and pragmatics of English reference and quiz questions

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In this talk, we present the findings of a corpus-based prosodic analysis of English *reference* questions (RQs) and *quiz* questions (QQs) (see [1] for an early description). RQs and QQs are subtypes of *wh*-in-situ questions (WIQs). RQs are echo questions (EQ) that ask for clarification about the reference of an underspecified phrase in a discourse-proximate utterance (1B),<sup>[2]</sup> whereas QQs are *probe* questions – i.e., questions that probe the addressee for an answer she is expected to know –<sup>[3]</sup> that are employed in a quiz(show) setting (2).

The study examines the distribution of accent placement in RQs and QQs, focusing on whether the *wh*-word must align with the nuclear accent (NA), i.e. the last pitch accent. By doing this, the study sheds light on the information-structural profile of RQs and QQs, which can be informative about how one should analyze the semantic and pragmatic import of WIQs more generally, as we show below.

**Study set-up.** To test whether post-*wh* deaccentuation is present, one must examine RQs and QQs in which the *wh*-word is not the final accentable unit. Therefore, our sample comprised exclusively of such questions. 81 such QQs were extracted from three episodes of three different British quizshows, each with a different format (episode-choice was random). To match this elicitation environment (i.e., show-business professionals reading or reciting scripted text in a studio), we have so far extracted 22 counterpart RQs from a variety of films and TV shows, found as text via searching subtitle databases. Example items from our samples are already provided in (1) and (2). The F0 pitch tracks for extracted items were annotated for their tonal profile (following ToBI) using PRAAT.

**Findings.** The NA is aligned with the *wh*-word in 100% of our current RQ sample: post-*wh* deaccentuation is observed in all cases. We also observe that all of these RQs display an L%, which aligns with previous reports for reference EQs.<sup>[1][2]</sup> However, the NA almost always aligns with a lexical item that **follows** the *wh*-word in QQs, meaning that no post-*wh* deaccentuation is observed (see Table 1). Instead, NA alignment follows a neutral NA assignment algorithm. Regarding accenting the *wh*-word, we found a correlation between articulation rate and the probability that the *wh*-word bears an accent: only 32.4% of EQs display an accented *wh*-word in *The Chase* because its format involves time-restricted question-rounds, whereas 100% of RQs display an accented *wh*-word in *University Challenge* because no-one is playing ‘against the clock’. Regarding the *t*-boundary tone, 88% of QQs displayed L%. Although QQs can display a templatic word-by-word downstepping contour that could arguably be associated with their unique use-conditions (i.e., a unique “gameshow” register), this is optional and infrequently employed (only 4 cases from our sample; see Figure 1 for an example).

**Interpretation and impact.** In English, a focus-marked item attracts the strongest stress in its scope domain,<sup>[4]</sup> possibly yielding post-focal deaccentuation in that domain. Because the *wh*-phrase in WIQs takes widest scope over the entire sentence, this yields the prediction that, if the *wh*-word is focus-marked. As Table 1 shows, this prediction is not borne out for QQs. Instead, QQs pattern with canonical multiple-*wh* questions such as (3), insofar as, in both cases, the deepest element inside the in-situ *wh*-phrase attracts an accent, yet this accent shows no hallmarks of focus-marking, as it is a prenuclear accent.<sup>[4]</sup> RQs pattern as described for echo questions more generally (see [5] and references therein): the *wh*-word and NA always align. Note that the same prosodic alignment is observed in RQs and echo questions in which *wh*-movement occurs, as (4B) shows.

These results are not straightforwardly compatible with any recent semantic or pragmatic approach that attempts to provide a unified account of WIQs (e.g., [5] and [6]), as we will demonstrate in detail during our talk. Our tentative explanation of our results comprises the following ingredients. First, we propose to invert the usual approach to *wh*-accentuation by stipulating that *wh*-phrases, as lexical words, attract accent as default, and therefore an additional mechanism works to override this norm in fronted and indefinite *wh*-phrases (e.g., German (*et*)*was*), in which accent is rejected. Second, we suggest that probe questions are assertions, but that they are comparable to non-*wh* assertions containing indefinites (e.g., *Mary saw someone*) rather than narrow-focus assertions (*contra* [6]). Thus, *Mary saw someone* and *Mary saw who* differ only insofar as the former conveys an existential presupposition about the direct object, whereas the latter does not. Third, we suggest that echo questions (including RQs) are merely probe questions with an additional discourse-relation to their antecedent: echo questions enter

into a relationship of corrective CONTRAST with their antecedents.<sup>[5]</sup> This is achieved through F-marking the *wh*-part of the *wh*-word, which type-lowers the *wh*-expression to a salient individual, which explains why echo questions (including RQs) are understood as querying the reference of a specific phrase in the antecedent utterance. Taken together, these ingredients form an analysis that not only explains the prosodic facts (and the morphosyntactic ones; see [5] for a list) but also helps to unify and demystify WIQs.

- (1) A: Did he COME here? (acute = accent; small caps = nuclear accent)  
 B: Did WHO come here? (RQ, from 1998 film *Wuthering Heights*)
- (2) In 1970, George Bést scored six goals for Manchester United in an FA Cúp match against which fourth DIVISION side? (QQ, from the BBC quizshow *Mastermind*)
- (3) Which woman saw which mán at the PARTY?
- (4) A: I saw the téacher on MONDAY.  
 B: Sorry, but... WHICH teacher did you see on Monday?

Table 1. Accentuation patterns for the quiz question sample			
	<i>The Chase</i>	<i>Mastermind</i>	<i>University Challenge</i>
Freq of Qs with non-final <i>wh</i> -word	37 in 59 mins	39 in 29 mins	12 in 29 mins
<i>wh</i> -word is accented (%)	32.4%	74.4%	100%
<i>wh</i> -word is followed by accented words (%)	100%	94.9%	91.7%

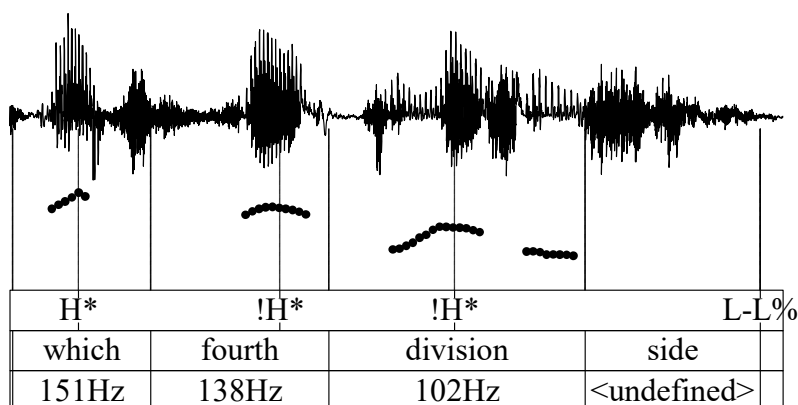


Figure 1: Pitch track and mean F0 of example (2)

#### References:

- [1] D. Bolinger. 1957. Interrogative Structures of American English: The Direct Question. *American Dialect Society* 28. Birmingham: University of Alabama Press.
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- [3] A. Nguyen. & G. Legendre. 2022. The acquisition of *wh*-questions: Beyond structural economy and input frequency. *Language acquisition* 29: 79-104
- [4] H. Truckenbrodt. 2013. An analysis of prosodic F-effects in interrogatives. *Lingua* 124: 131–175.
- [5] S. Beck & M. Reis. 2018. On the form and interpretation of echo *wh*-questions. *Journal of Semantics* 35: 369–408.
- [6] M. Biezma. 2020. Non-informative assertions: The case of non-optional *wh*-in-situ. *Semantics & Pragmatics* 13, e18.