

## Disambiguating contrastive topic from focus: a case of Czech polar questions

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**Background** The status of information-structural elements that induce alternatives in polar questions (PQs) has recently been debated by [4], who show that in English they are encoded by prosodic prominence, although they are ambiguous between a focus (F) and a contrastive topic (CT) reading (e.g. *Did [Leia]<sub>{CT/F}</sub> eat the beans?*). Focus denotes an exhaustive answer to the question under discussion (QUD); CT denotes what the QUD is about and implies other questions about different topics [1, 3, 7]. Other typologically unrelated languages use certain morphosyntactic means to disambiguate between CT vs. F. In Turkish, the PQ clitic *mi* attaches to a focused constituent, but not to a CT. In Greek, focus rejects clitic doubling, while a CT requires it. In Hungarian, verb movement indicates that the focused constituent moved to a dedicated position, while a PQ with a CT does not involve such verb movement.

**Contribution** This study examines these elements in Czech PQs and proposes that word order is one of the means of disambiguation (since Czech word order is very flexible), at least for some types of PQs. From this perspective, I will compare positive PQs with those that involve outer negation (ONPQs) [5, 8, 10]. Outer negation is part of the pragmatic meaning of the PQ, allows for positive polarity items in its scope, does not license negative concord items and is compatible with the particle *náhodou* ‘by any chance’. It has been claimed to map primarily onto the interrogative (VSO) word order and analyzed as the operator FALSUM, which is presumably obligatorily focused [9]. By applying several tests based on [3] and [4], I will show that in interrogative positive PQs (= PPQs), the prosodically prominent element might receive both the F and CT interpretation (depending on the context), while declarative PPQs involve only a CT. With the help of experimental data, I will show that ONPQs are restricted in expressing these categories based on the word order that is used and thus differ from PPQs.

**Research question & hypotheses** The aim was to investigate whether word order in ONPQs helps with the disambiguation between a CT vs. F reading of the prominent element. Two hypotheses were formulated. H1: Interrogative word order is the default, which allows for both readings, while declarative (SVO) is non-default, which allows only for a CT; this is the null hypothesis, predicting PPQs and ONPQs behave the same. H2: The two word orders divide labor, each signals a distinct reading of the element; this is the working hypothesis, predicting PPQs and ONPQs behave differently.

**Experiment** I ran a naturalness judgment task with a 2x2 design, where 25 Czech native speakers rated how natural an ONPQ sounded in a given context on a scale from 1 (completely unnatural) to 7 (completely natural). The manipulated variables were *context type* (additive vs. exhaustive), which served as a proxy for the CT vs. F reading, respectively; and *word order* (interrogative vs. declarative); see the example stimulus in (1). Both variables were manipulated within items/subjects. I constructed 8 such items like the one in (1) and mixed them with 74 fillers. The stimuli were distributed on lists using the Latin Square design and the order of presentation was pseudo-randomized. The task was run online on L-rex [11] and the stimuli were presented auditorily.

**Results and discussion** Raw results are summarized in Fig 1. I fitted a Cumulative Link Mixed Model (ordinal package of R; [2]) with *context type*, *word order* and their interaction as fixed effects, and random intercepts and slopes for participants and items. The interaction of *context type* and *word order* was significant ( $z = 3.468, p < .001$ ). Since both H1 and H2 predicted an interaction, though each in a different direction, I performed a post-hoc test using emmeans to determine how the ratings of the individual conditions differed based on pairwise comparisons ([6]; see Figure 2). While the subject in interrogative ONPQs tended to the F rather than CT reading (difference between b vs. d:  $p = .001$ ), the subject in declarative ONPQs tended to the CT rather than F reading (difference between a vs. c:  $p < .001$ ). These results give support to H2: the two word orders divide labor in that interrogative ONPQs facilitate the F (exhaustive) reading, while declarative ONPQs facilitate the CT (additive) reading of the prominent alternative-inducing element. Thus, word order in ONPQs can help in the disambiguation between the readings. The relatively high rating of condition d suggests that the exhaustivity of the prominent element in interrogative PQs is cancelable. Thus, I propose that the exhaustive inference, which is brought about by prosodic prominence and is generally very strong, should be analyzed as a conversational implicature. The results suggest that the encoding of information structure in ONPQs is more restricted than in PPQs.

(1) Example stimulus (nuclear accent in BOLD, prenuclear accent underlined)

A: Četla jsem sportovní noviny a **Messi** prý vyhrál cenu pro nejlepšího fotbalistu roku. (exhaustive)  
 I-read AUX sports newspaper and Messi allegedly won award for best football-player year

'I read a sports magazine and allegedly Messi won the award for the best football player of the year.'

A': Četla jsem sportovní noviny a **Messi** prý dal při posledním zápase gól. (additive)

I-read AUX sports newspaper and Messi allegedly gave during last match goal

'I read a sports magazine and allegedly Messi scored a goal during the last match.'

B: A nevyhrál náhodou RONALDO tu cenu ? (interrogative, variant for exhaustive context)  
 and NEG.won náhodou Ronaldo DET award  
 'And didn't Ronaldo win the award, by any chance?'

B': A Ronaldo náhodou NEVYHRÁL tu cenu? (declarative, variant for exhaustive context)  
 and Ronaldo náhodou NEG.won DET award  
 'And Ronaldo didn't win the award, by any chance?'

condition	context	word order
a	exhaustive	declarative
b	exhaustive	interrogative
c	additive	declarative
d	additive	interrogative

Tab.1: Experimental conditions.

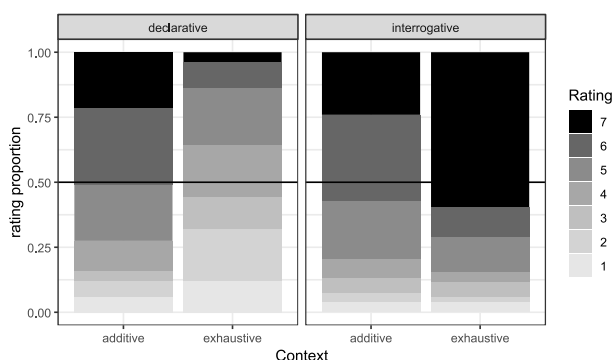


Fig. 1: Raw results. Horizontal line cuts through median.

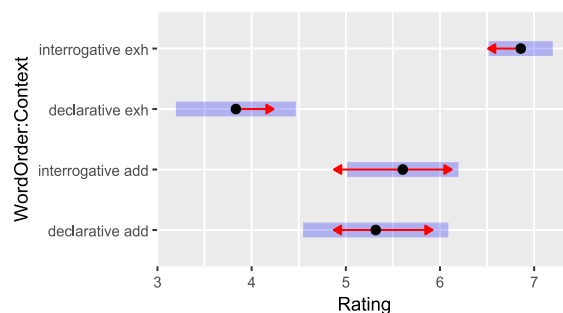


Fig. 2: Emmeans results. Red arrows are for comparisons.

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