The meaning of Czech response particles: Experimental evidence

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Background Polar response particles ('yes'/'no') can be understood as expressing the absolute polarity of a proposition p (positive [+]: 'yes' = p; negative [−]: 'no' = $\neg p$), (dis)agreement with the polarity of a suitable propositional antecedent – whether negative or affirmative (agreement [agree]: 'yes' = 'it's the case that p'; disagreement [reverse]: 'it's not the case that p', where p itself may or may not contain negation), or a combination thereof (e.g. German *doch*: [reverse, +]) (Roelofsen & Farkas 2015). Responses to affirmative polar questions ('Is it raining?') or statements ('It's raining.') represent a simple case, provided that the propositional antecedent supplies the prejacent: the meaning of [+] ('it's raining') matches the one of [agree] ('it's the case that it's raining') and the meaning of [−] ('it's not raining') matches the one of [reverse] ('it's not the case that it's raining'). Responses to negative polar questions, on the other hand, provide a valuable window into the interpretation of both questions and response particles themselves. Both 'yes' and 'no' are in principle ambiguous when used as responses to a question like 'Is it not raining?' – 'yes' can either express the absolute positive polarity ('it's raining') or agree with the prejacent's polarity ('it's the case that it's not raining'); 'no' can either express the absolute negative polarity ('it's not raining') or reverse the prejacent's polarity ('it's not the case that it's not raining' = 'it's raining'). If, however, a particle can only express [agree], for instance, ambiguity is not predicted. The issue is further complicated by the reasonable assumption (Krifka 2013) that negative questions/statements can in principle introduce two propositional referents – one containing negation, the other lacking it. That re-introduces the ambiguity, but its resolution is not lexical in nature (feature specification), but pragmatic (referent saliency).

Contribution Based on novel experimental evidence from responses to negative questions, we argue that the Czech particle *ano* 'yes' expresses relative agreement [agree] and *ne* 'no' absolute polarity [−]. An important role is played by the form of the negative question and particularly the position of the negated verb: in V-first questions, the negation tends not to be interpreted (so-called pleonastic/expletive negation), and in V-last questions, it is interpreted.

Design, materials, participants We set up an experimental design (truth-value judgment combined with naturalness rating; inspired by Kramer & Rawlins 2012 and Claus et al. 2017) to assess the meaning of the Czech response particles *ano* 'yes' and *ne* 'no' and of Czech negative polar questions. Our setup included three experiments, which functioned as mutual fillers: E1 addressed responses to questions with a fronted negative verb (V-first), which are syntactically interrogative in Czech; E2 addressed responses to questions with a clause-final negative verb (V-last), which are syntactically declarative, but receive a question interpretation if accompanied by rising intonation/question mark; E3 addressed affirmative V-first questions (E3 served as a sanity check; the results were in line with what is described above and are not reported here). All stimuli consisted of a narrative followed by a dialog – minimally a question and a response. E1 involved a fully crossed $2 \times 2 \times 2$ within-items/subjects design and manipulated the response particle (yes vs. no; manipulated in the dialog response), fact (affirmative vs. negative; manipulated in the narrative), and contextual bias (positive vs. negative; manipulated by a lead-in utterance in the dialog), the latter to address Krifka's (2013) predictions related to propositional referent salience. (1) provides one translated item (out of the total of 16) in all the eight possible conditions (boldface included here for clarity). E2 involved a 2×2 design: it lacked the bias manipulation, but otherwise was similar to E1 (except that the negated verb was clause-final). The task was to (i) judge whether the response is true (given the narrative/fact) and (ii) rate its naturalness on a 1–7 scale (unnatural–natural). The experiment was coded and administered

using the L-Rex software (Starschenko & Wierzba 2021). Data from 66 participants entered the analyses.

(1) Eva and Lída both took part in a Christmas ball in their home town. Lída, who is frequently involved in social activities in her home town knows that Alice, their ex-schoolmate and an experienced ball organizer, {**organized this ball**$_\text{aff}$ / **didn't organize this ball**$_\text{neg}$}$_\text{fact}$. Some time after the ball Eva and Lída meet and talk about the ball.

Lída: {**The ball was a success.**$_\text{pos}$ / **The ball wasn't great.**$_\text{neg}$}$_\text{bias}$
Eva: Neorganizovala ho Alice? (lit. neg.organized it Alice?)
Lída: {**Yes.**$_\text{yes}$ / **No.**$_\text{no}$}$_\text{particle}$

Results We only report the truth-value judgment here (naturalness ratings will be reported in the presentation). We fitted generalized linear mixed models (glmer of R, binomial family; to be spelled out in the presentation) to determine the (interaction) effects of all manipulated variables on the truth-value judgments in each of the two experiments. In both experiments, there is an interaction (albeit in a different form) between particle and fact: no is consistently judged as true if the fact is negative and false if positive, while this difference is less pronounced (E2; $z = -7.6, p < .0001$) or reversed (E1; $z = 3.8, p < .001$) for yes. The contrast between aff and neg fact is significant (simple/nested effect) in both yes and no responses in both experiments (all 4 $p_\text{s} < .01$). There was no main effect of (or interaction with) bias, only a simple effect nested within the aff+yes condition ($z = 2.6, p < .01$).

Discussion The results clearly support the $[-]$ (absolute) specification of the Czech particle *ne* 'no': in both experiments it is judged as true in the neg fact condition ($\approx 80\%$) and false in aff fact ($\approx 15\%$). Further, the results are consistent with the [agree] (relative) specification of *ano* 'yes'. In V-last question (E2), negation is salient and consequently 'yes' agrees with the negative prejacent (66%), although agreement with the affirmative prejacent is not ruled out (28%). V-first questions (E1) represent the most complex case. The tendency to agree with the affirmative prejacent ($\approx 63\%$) and not to agree with the negative prejacent (43%) follows from the (tendentially) pleonastic nature of the negation on the initial verb. The tendential nature of the results suggests that initial negation is ambivalent between canonical and pleonastic. The simple effect of bias within aff fact and yes response is consistent with Krifka's (2013) idea that positive bias favors an affirmative prejacent/negative bias favors negative prejacent. Consequences for previous accounts of Czech response particles (esp. Gruet-Skrabalova 2016) will be discussed.
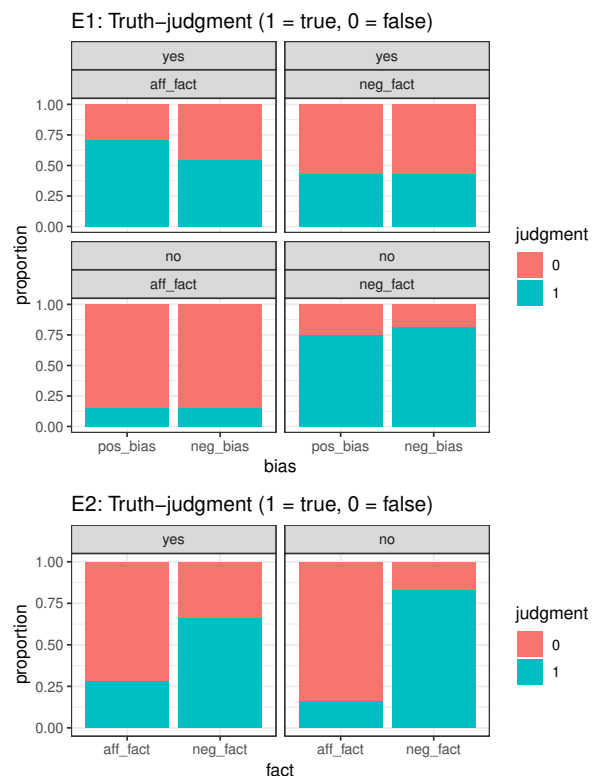
References: Claus, Krifka, Meijer & Repp 2017 Puzzling response particles: An experimental study on the German answering system. *Semantics & Pragmatics* 10(19), 1-51. ● **Gruet-Skrabalova 2016** Yes or no, or how to answer a negative question. *Linguistica* 56(1), 127-142. ● **Kramer & Rawlins 2012** An ellipsis approach to answer particles in positive and negative contexts. Workshop on the Syntax of Answers to Polar Questions. ● **Krifka 2013** Response particles as propositional anaphors. *SALT 23,* 1-18. ● **Roelofsen & Farkas 2015** Polarity particle responses as a window onto the interpretation of questions and assertions. *Language* 91, 359-414.