

What is at-issueness? An experimental comparison of diagnostics

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Different at-issueness diagnostics

- (1) QUD diagnostic (e.g., Tonhauser 2012; Chen 2024)

A: *What did Greg buy?*

B: *Greg, who bought a new car, is envied by his neighbor.*

Question to participants: How well does B's response fit A's question?

- (2) 'asking whether' diagnostic (e.g., Tonhauser et al. 2018; Solstad and Bott 2024)

Is Greg, who bought a new car, envied by his neighbor?

Question to participants: Is the speaker asking whether Greg bought a new car?

- (3) Direct dissent diagnostic (e.g., Tonhauser 2012; Syrett and Koev 2015)

A: *Greg, who bought a new car, is envied by his neighbor.*

B: *No, that's not true, he didn't buy a new car.*

Question to participants: How natural is B's rejection of A's utterance?

- (4) 'yes, but' diagnostic (e.g., Xue and Onea 2011; Destruel et al. 2015)

A: *Greg, who bought a new car, is envied by his neighbor.*

B: *Yes, but he didn't buy a new car. /*

Yes, and he didn't buy a new car. /

No, he didn't buy a new car.

Task for participants: Choose the response that sounds best.

Differences

- ▶ Question-based vs. assertion-based diagnostics: Assumptions are different (Snider 2017b,a, 2018; Koev 2018; Faller 2019; Korotkova 2020)
- ▶ Medial appositive RCs usually not-at-issue on all four diagnostics (Potts 2005; Amaral et al. 2007; Tonhauser 2012; Syrett and Koev 2015; Destruel et al. 2015; Tonhauser et al. 2018; Solstad and Bott 2024)
- ▶ BUT final appositive RCs have been argued that sentence-final appositive NRRCs can be interpreted as at-issue, based on findings from the direct-dissent diagnostic (Syrett and Koev 2015; AnderBois et al. 2015)
- ▶ Fine-grained lexical differences for the at-issueness of the embedded content of clause-embedding predicates Tonhauser et al. 2018; Degen and Tonhauser 2025: e.g., *A knows p* and *A is right that p* are usually thought to come with inference that p is true, but they differ in at-issueness ratings for propositional content p
- ▶ Can we find these differences?

Method

Comparing diagnostics

Manipulating diagnostic used to assess the at-issueness status of the same types of contents across four experiments:

- ▶ Four experiments: each with one of the four diagnostics shown in (1)–(4)
- ▶ Seven conditions (type of content): sentence-medial and sentence-final NRRCs, and the embedded complements of selected clause-embedding predicates

In each experiment, 80 participants saw each of 7 conditions once, each randomly paired with a clause to instantiate it (item), e.g. *Greg bought a new car*, + 2 controls (1 AI main clause, 1 unrelated)

Materials

Operationalize each diagnostic through its established empirical task:

- ▶ question-answer match ratings for the QUD diagnostic
- ▶ speaker intention judgments for the asking-whether diagnostic
- ▶ naturalness ratings for direct dissent
- ▶ and forced-choice responses for the ‘yes, but’ diagnostic

Charlotte: *Did the manager report Ann, who stole the money?*

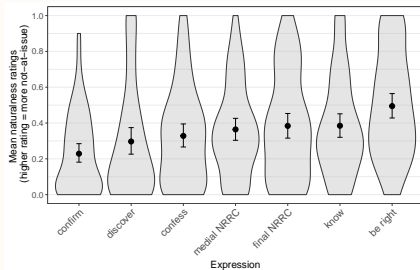
Is Charlotte asking whether Ann stole the money?



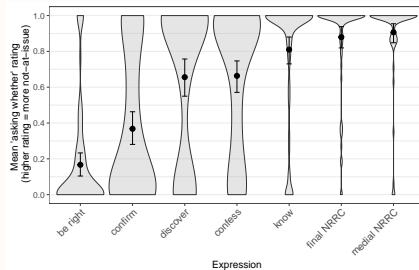
no yes

Continue

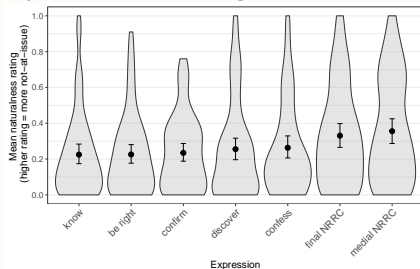
Exp. 1 (QUD diagnostic)



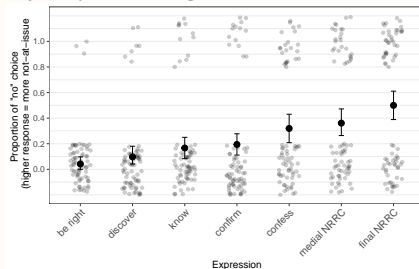
Exp. 2 ('asking whether' diagnostic)



Exp. 3 ('direct dissent' diagnostic)



Exp. 4 ('yes, but' diagnostic)



Some observations

- ▶ Experiment 2 (asking whether) shows the greatest differentiation between the contents, Experiment 2 ('direct dissent') showing the least; (range of means, and significant differences between them)
- ▶ No difference between medial and final NRRCs
- ▶ (posthoc pairwise comparisons of the estimated means/proportions for each content using the 'emmeans' package (Lenth 2023) in R (R Core Team 2016). The input to the pairwise comparisons were mixed-effects beta regression models (Exps. 1-3) or a mixed-effects logistic regression model (Exp. 4))

Spearman rank correlations between the results of Exps. 1-4.:

	Exp. 1	Exp. 2	Exp. 3	Exp. 4
Exp. 1 (QUD diagnostic)		.11	-.29	-.18
Exp. 2 ('asking whether' diagnostic)			.64	.79
Exp. 3 ('direct dissent' diagnostic)				.79

Some points

- we do see differences between diagnostics, not all show the differences - points we could make: 1. Exp 1 is so different from the others (be right) 2. what the results might tell us about whether the diagnostics diagnose a shared underlying property 3. and why Exp 2 shows this great differentiation, but that we only have time for one

Q-at-issueness or question-embedding?

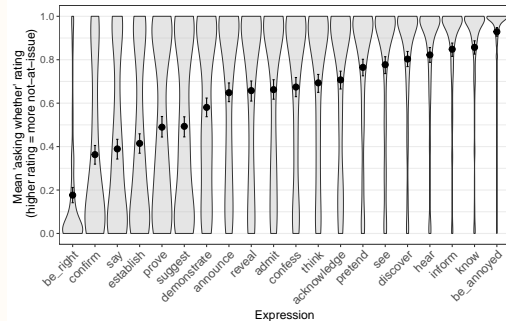
Why is asking whether different from all others, when the QUD-one should be like the aw test based on Q-AI-ness? In experiments 5 and 6, we test whether the fine-grained differences among clause-embedding predicates observed with one diagnostic (asking-whether) are replicated with other diagnostics.

- ▶ CCs of clause-embedding predicates because one diagnostic found fine-grained differences
- ▶ Are these differences between contents replicated by the use of other diagnostics?

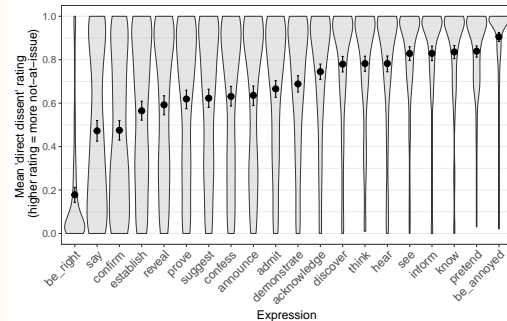
- (5)
- a. Exp. 5 ('asking whether' diagnostic)
Nora: *Is xx right that Lucy broke the plate?*
Question to participants: Is Nora asking whether Lucy broke the plate?
 - b. Exp. 6 ('direct dissent' diagnostic)
Nora: *Is XX right that Lucy broke the plate?*
Leo: *Yes, she didn't break the plate.*
Question to participants: How natural is Leo's response to Nora's question?

Results

Exp. 5 ('asking whether' diagnostic)



Exp. 6 ('direct assent' diagnostic)



Results of Exps. 5-6. The panels show the mean ratings by expression for (a) Exp. 5 (asking whether diagnostic) and (b) Exp. 2 (direct assent diagnostic). Error bars indicate 95% bootstrapped confidence intervals. Violin plots show the kernel probability density of individual participants' ratings.

► Spearman rank = .93

Analysis/discussion

Takeaways

- ▶ no replication of Syrett + koev
- ▶ it matters which diagnostic you use (experimental confirmation for snider, korotkova)
- ▶ difference between Q-at-issues does not seem to be the most important difference, but more where is the content embedded
- ▶ Interaction of lexical semantics and pragmatics: Q

Interrogatives

why are interrogatives like that?

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