

What is at-issueness?

An experimental comparison of diagnostics

Conglei Xu, Lisa Hofmann, Judith Tonhauser



Universität Stuttgart

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At-issueness

Distinguish propositional content expressing the main point of an utterance (at-issue content) from those conveying background information (not-at-issue content)

(1) *Greg, who bought a new car, is envied by his neighbor.*

- a. At-issue content: *Greg is envied by his neighbor*
- b. Not-at-issue content: *Greg bought a new car*

- ▶ Several definitions and diagnostics have been proposed in the literature
- ▶ Very little discussion of whether definitions and diagnostics target the same underlying phenomenon (Snider 2017b,a, 2018; Koev 2018; Faller 2019; Korotkova 2020)
- ▶ This work: take a step in addressing this question, compare whether four commonly used diagnostics yield the same results for propositional contents introduced by the same kinds of expressions

Experiments 1–4

- ▶ Across four experiments, we manipulated the diagnostic used to assess the at-issueness status of the same contents
- ▶ We chose four diagnostics that have been suggested to target different notions of at-issueness and show different empirical patterns (Snider 2017b,a, 2018; Koev 2018; Faller 2019; Korotkova 2020)
- ▶ We offer a systematic experimental comparison

Question-based at-issueness diagnostics

Question-based diagnostics assume a conception of at-issueness relative to the QUD: At-issue content is the part of an utterance that interacts with the current QUD (Amaral et al. 2007; Simons et al. 2010)

- (2) 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?

- (3) '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?

- ▶ Other diagnostics make other assumptions (Snider 2017b,a, 2018; Koev 2018; Faller 2019; Korotkova 2020)

Assertion-based at-issueness diagnostics

Assertion-based diagnostics assume that the at-issue content of an assertion constitutes a proposal to update the common ground that can be affirmed or denied (Farkas and Bruce 2010; Murray 2014; AnderBois et al. 2015)

- (4) 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?

- (5) '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.

Experiments 1–4: contents

In seven conditions, each experiment tested propositional contents which previous literature leads us to expect show differences in at-issueness status

Propositional contents associated with:

- ▶ Sentence-medial and sentence-final appositive NRRCs (non-restrictive relative clauses): Syrett and Koev 2015 found that final appositives are more at-issue than medial ones under a version of the direct-dissent diagnostic
- ▶ Clauses embedded by *be right*, *confirm*, *discover*, *confess*, and *know*: Degen and Tonhauser 2025 found fine-grained differences in how at-issue these are under the ‘asking-whether’ diagnostic

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 (attention checks)

Materials

Exp. 1 (QUD diagnostic)

Nora: *What did Ann steal?*

Leo: *The manager reported Ann, who stole the money.*

How well does Leo's response fit Nora's question?



Continue

Exp. 2 ('asking whether' diagnostic)

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

Is Charlotte asking whether Ann stole the money?



Continue

Exp. 3 ('direct dissent' diagnostic)

Dawn: *The neighbor envies Greg, who bought a new car.*

Charlotte: *No, he didn't buy a new car.*

How natural is Charlotte's rejection of Dawn's utterance?



Exp. 4 ('yes, but' diagnostic)

Vincent: *The boss scolded Dustin, who lost his key.*

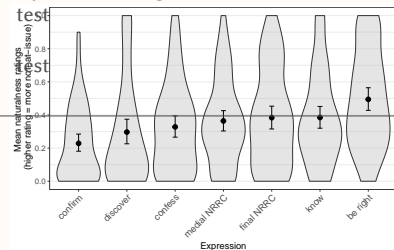
Nina:

- ☐ *Yes, but he didn't lose his key.*
- ☐ *Yes, and he didn't lose his key.*
- ☐ *No, he didn't lose his key.*

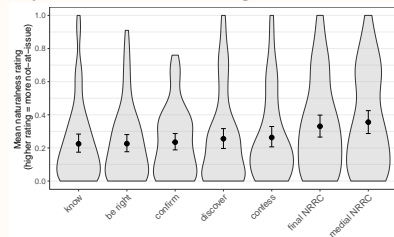
Please choose the response by Nina that sounds best to you.

Results

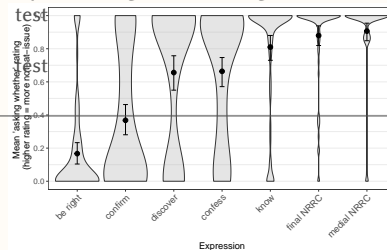
Exp. 1 (QUD diagnostic)



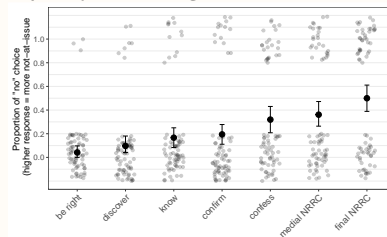
Exp. 3 ('direct dissent' diagnostic)



Exp. 2 ('asking whether' diagnostic)



Exp. 4 ('yes, but' diagnostic)



Exp. 2 ('asking whether'): greatest differentiation between contents

- Range of means
- More differences between contents

Rankings between contents always different

- No pairwise difference is found for all diagnostics

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 bayesian mixed-effects beta regression models (Exps. 1-3) or a mixed-effects logistic regression model (Exp. 4)

Takeaways and questions

- ▶ We do see differences between diagnostics, importantly not all show the same differences between contents
- ▶ None of our diagnostics replicate finding from Syrett and Koev (2015) that final appositives are more at issue than medial ones
- ▶ Only the ‘asking whether’ diagnostic replicates finding from Degen and Tonhauser 2025 that clause-embedding predicates show fine-grained lexical differences in how at-issue the embedding clause is

We further explore this question:

Why does Exp. 2 ‘asking whether’ show a greater differentiation of contents than the other diagnostics?

Why is 'asking whether' so different?

Previous literature:

► **Question-based vs. assertion-based at-issueness** diagnostics:

The question-based diagnostics (QUD, 'asking whether') are about whether a proposition is at issue relative to a QUD introduced in the previous discourse, whereas assertion-based diagnostics (direct dissent, 'yes but') target a different underlying notion

Two other hypotheses: When testing a range of contents, the differentiation between contents (in terms of range of means, significant differences) is greater:

① **Question embedding:**

...when contents are embedded in a question vs. a declarative assertion.

② **Response task:**

...when participants are more directly asked what the utterance was about vs. when giving acceptability judgment or forced-choice continuation responses.

Question-embedding or response task?

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.

- (6) a. Exp. 5 ('asking whether' diagnostic)
Nora: *Is Cole right that Lucy broke the plate?*
Question to participants: Is Nora asking whether Lucy broke the plate?
- b. Exp. 6 ('direct response', question embedding + direct *yes*-response)
Nora: *Is Cole 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?

20 clause-embedding predicates: *be right, confirm, say, establish, prove, suggest, demonstrate, announce, reveal, admit, confess, think, acknowledge, pretend, see, discover, hear, inform, know* and *be annoyed*

- ① If **question embedding** is what allows for greater differentiation between contents, results from Exp. 5 and Exp. 6 should be very similar
- ② If **response task** is what allows for greater differentiation between contents, results from Exp. 5 and Exp. 6 should be rather different

Materials + procedure

Similar to Exps. 1–4, but measure at-issueness for contents of complements for the 20 clause-embedding predicates of Tonhauser et al. 2018 and Degen and Tonhauser 2025

Exp. 5 ('asking whether' diagnostic)

Ruth asks: "*Did Helen discover that Tony had a drink last night?*"

Is Ruth asking whether Tony had a drink last night?

no

yes

Next

Exp. 6 ('direct response' diagnostic)

Gary: "*Did Cole acknowledge that Julian dances salsa?*"

Christina: "*Yes, Julian dances salsa.*"

Does Christina's response to Gary sound good?

no

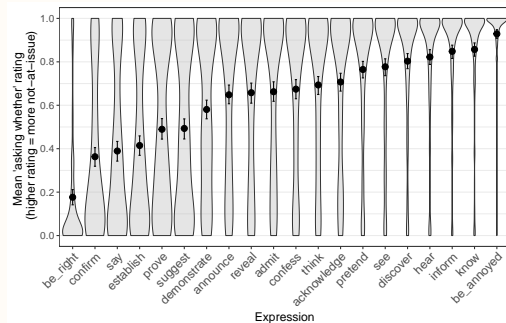
yes

Next

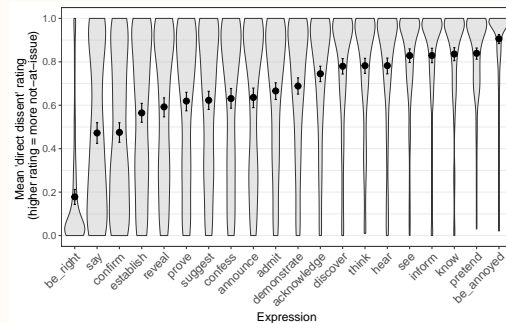
Across both experiments, 550 participants saw each of 20 conditions once, each randomly paired with a clause to instantiate it (item), e.g. *Julian dances salsa* + 6 control trials (attention checks)

Results

Exp. 5 ('asking whether' diagnostic)



Exp. 6 ('direct response' 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

Discussion

- ▶ Results from Exps. 5–6 are highly correlated
- ▶ The speech act (question vs. assertion) matters most for how sensitive a diagnostic is to differences between contents
 - ▶ More than response task
 - ▶ More than question-based vs. assertion-based diagnostics

Different from previous literature suggesting that different diagnostics show different empirical results: Mostly highlighted difference between QUD at-issueness, and assertion-based diagnostics, which are either argued not to be about at-issueness at all (Snider 2017b,a, 2018), or about a separate assertion-based notion of at-issueness (Koev 2018; Faller 2019; Korotkova 2020)

Question embeddings

So why are question embeddings so different from assertions? Some speculation:

- ▶ **Literal meaning** of appositives / lexical semantics of clause-embedding verbs affects how much/likely the embedded content is interpreted as at issue
Big question here: which lexical properties can affect this how? Look to literature on presupposition triggering? (Abrusán 2011; Schlenker 2021; Anand and Korotkova 2024, Scontras & Tonhauser to appear)
- ▶ **Questions:** At-issue content introduces a question partition, but no speaker commitment
- ▶ **Projection:** In any context, not-at-issue content projects, and we understand the speaker to be committed to it
- ▶ **Assertions:** Speaker is committed to the at-issue content as well, and therefore at-issue content and not-at-issue content are harder to distinguish
- ▶ Therefore **questions are good context to test at-issueness differences** which may be conditioned by literal
- ▶ Testing the at-issueness of contents in declarative assertions muddles the picture, making at-issue and not-at-issue content harder to distinguish; especially when the test itself invokes commitment (like those using assent/dissent)

Takeaways

- ▶ Experimental confirmation for claims that there are empirical differences between at-issueness diagnostics (Snider 2017b,a, 2018; Koev 2018; Faller 2019; Korotkova 2020)

It matters which diagnostic is used.

- ▶ But: difference between QUD at-issueness and assertion-based diagnostics does not seem to be the most important; more important is the **speech act** where the target content is embedded
- ▶ No replication of Syrett and Koev 2015: We did not find that final appositives are more at-issue than medial ones
- ▶ Left open here: What the results might tell us about whether the diagnostics reflect a shared underlying notion of at-issueness

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