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)   (e.g., Potts 2005)

(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
   (e.g., Faller 2003; Amaral et al. 2007; Simons et al. 2010; Tonhauser 2012; Farkas and Bruce 2010; Murray 2014; AnderBois et al. 2015)

▶ **Do these definitions and diagnostics target the same underlying phenomenon?**
   Little discussion in the literature
                    e.g., (Snider 2017b,a, 2018; Tonhauser et al. 2018; Koev 2018; Faller 2019; Korotkova 2020)

▶ This work: take a step in adressing this question, by investigating **whether different commonly used diagnostics yield the same results for propositional contents introduced by the same kinds of expressions?**

Preview

Our results suggest that:

► Exps. 1–4: The diagnostics we test **do not all yield the same results**

► Exps. 5–6: The speech act matters: We get a clearer picture when assessing the not-at issue content of different expressions in **questions** rather than assertions

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

<div align="right">(Snider 2017b,a, 2018; Koev 2018; Faller 2019; Korotkova 2020)</div>

▶ We offer a systematic experimental comparison

Introduction
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Experiments 1–4
○●○○○○○○○

Experiments 5–6
○○○○

General discussion
○○

References

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)

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?

totally doesn't fit   totally fits

Continue

Exp. 2 ('asking whether' diagnostic)

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

Is Charlotte asking whether Ann stole the money?

no   yes

Continue

▶ Other diagnostics make other assumptions

(Snider 2017b,a, 2018; Koev 2018; Faller 2019; Korotkova 2020)

Introduction
○○

Experiments 1–4
○○●○○○○○

Experiments 5–6
○○○○

General discussion
○○

References

Assertion-based at-issueness diagnostics

Assertion-based diagnostics assume that the at-issue content of an assertion constitues a proposal to update the common ground that can be affirmed or denied

(Farkas and Bruce 2010; Murray 2014; AnderBois et al. 2015)

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?

totally unnatural ——————————————○————————————— totally natural

Continue

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.

Continue

Introduction
○○

Experiments 1–4
○○○●○○○○○

Experiments 5–6
○○○○

General discussion
○○

References

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

Introduction

Experiments 1–4
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Experiments 5–6
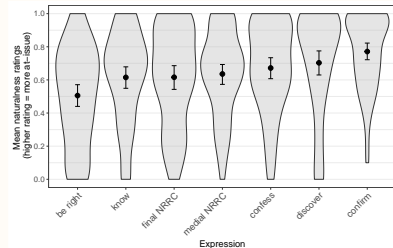0000

General discussion
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References
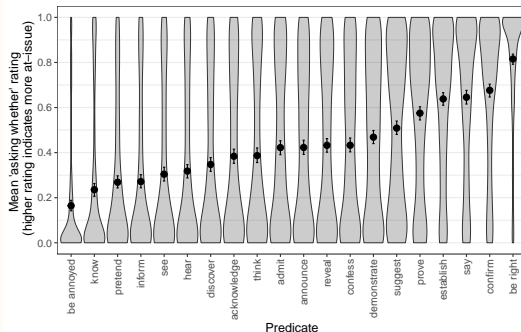
Experiments 1–4: Method

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)
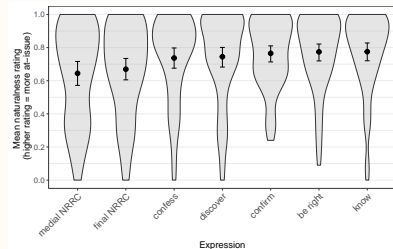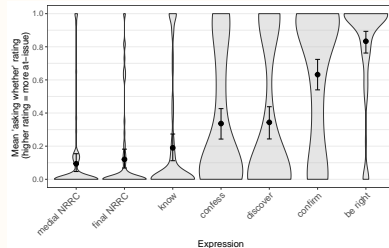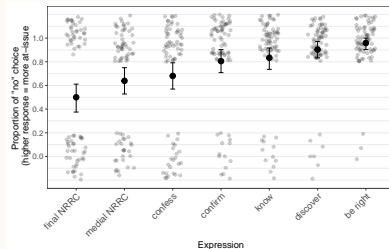
Introduction
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Experiments 1–4
○○○○○●○○○

Experiments 5–6
○○○○

General discussion
○○

References

Results

Exp. 1 (QUD diagnostic)

Exp. 2 ('asking whether' diagnostic)

Exp. 3 ('direct dissent' diagnostic)

Exp. 4 ('yes, but' diagnostic)

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

- ▶ Range of means
- ▶ More pairwise differences between contents

Final NRRCs are not more at issue than medial NRRCs
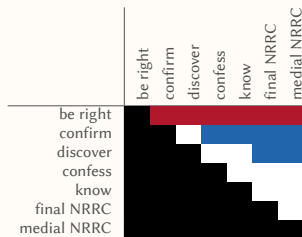
Fine-grained differences only with 'asking whether'

Content rankings always different

- ▶ Most pairwise differences inconsistent
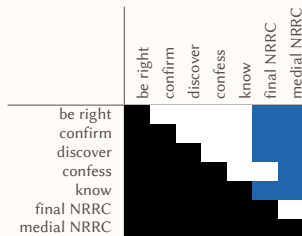- ▶ *be right* very different for QUD diagnostic

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)

Introduction
○○

Experiments 1–4
○○○○○○●○○

Experiments 5–6
○○○○

General discussion
○○

References

Results

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Exp. 3 ('direct dissent' diagnostic)

Exp. 4 ('yes, but' diagnostic)

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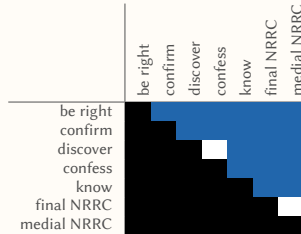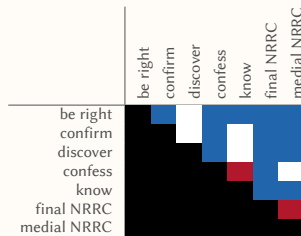
Takeaways and questions

▶ 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 embedded clause is

We further explore this question:

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

Introduction
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Experiments 1–4
00000000●

Experiments 5–6
0000

General discussion
00

References

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, wheras 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:

❶ **Question embedding:**
...when contents are embedded in a question vs. a declarative assertion.

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

Introduction
oo

Experiments 1–4
oooooooooo

Experiments 5–6
●ooo

General discussion
oo

References

Question-embedding or response task?

In Exps. 5-6, we test whether the fine-grained differences among clause-embedding predicates observed with 'asking whether' diagnostic are replicated with other diagnostics.

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

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

▶ Contents: 20 clause-embedding predicates of Tonhauser et al. (2018) and Degen and Tonhauser 2025: *be right, confirm, say, establish, prove, suggest, demonstrate, announce, reveal, admit, confess, think, acknowledge, pretend, see, discover, hear, inform, know* and *be annoyed*

▶ Across the two 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)
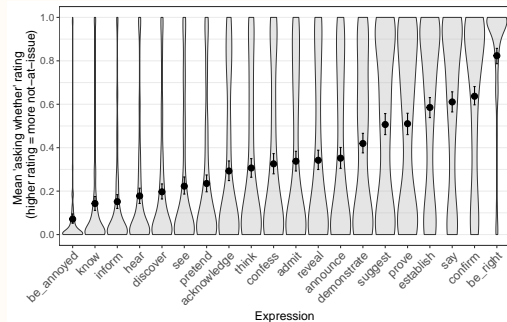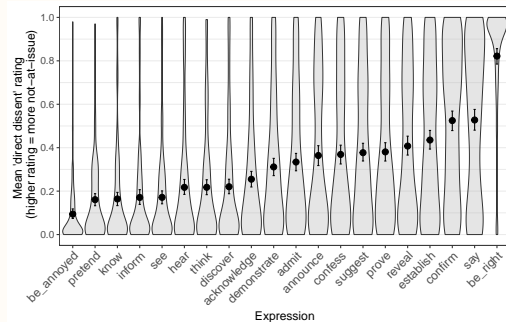
Exp. 6 ('direct response' diagnostic)

- ▶ We see fine-grained at-issueness distinctions between clause-embedding predicates in both cases
- ▶ By-content means from the two experiments are highly correlated (Spearman rank correlation = .93)

Introduction
○○

Experiments 1–4
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Experiments 5–6
○○●○

General discussion
○○

References

Results
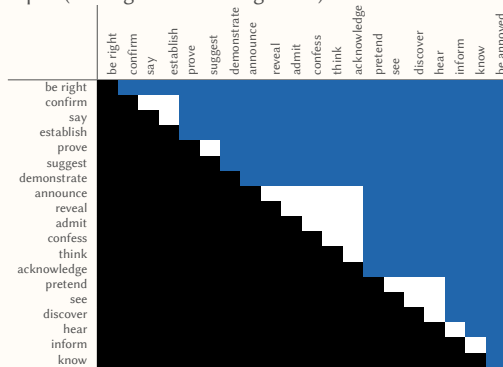
Exp. 5 ('asking whether' diagnostic)
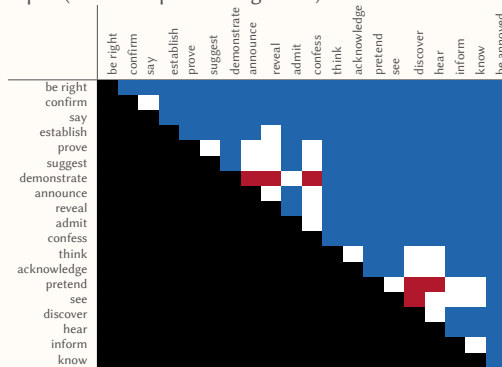
Exp. 6 ('direct response' diagnostic)

- ▶ We see fine-grained at-issueness distinctions between clause-embedding predicates in both cases
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Discussion

▶ High correlation of results from Exps. 5–6 suggests that the response task (speaker intention judgments vs. acceptability ratings for direct responses) is not what made the 'asking whether' diagnostic stand out in Exps.1–4

▶ The **speech act** (question vs. assertion) affects how sensitive a diagnostic is to differences between contents

▶ Different from previous literature suggesting that diagnostics yield different results:
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)

Introduction
oo

Experiments 1–4
ooooooooo

Experiments 5–6
oooo

General discussion
●o

References

So why are question embeddings so different from assertions?

- ▶ **Questions:** At-issue content partitions the contect; without speaker commitment
  (Groenendijk and Stokhof 1984; Ginzburg 1996; Roberts 1996; Tonhauser et al. 2018)

  $\llbracket$*Is Greg, who bought a car, envied by his neighbor?*$\rrbracket =$ {Greg, who bought a car, is envied by his neighbor,
        Greg, who bought a car, is not envied by his neighbor}

- ▶ **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 and Tonhauser 2025)

- ▶ Therefore **questions are good context to test at-issueness differences** conditioned by literal meaning

- ▶ **Projection:** When propositional content is not-at-issue, it projects, and we understand the speaker to be committed to it

- ▶ **Assertions:** Signal that speaker is committed to the at-issue content, and therefore at-issue content and not-at-issue content are harder to distinguish

- ▶ Testing 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; **speech act** where the target content is embedded is more important

▶ Important question for future work: What the results might tell us about whether the diagnostics reflect a shared underlying notion of at-issueness

Introduction
oo

Experiments 1–4
ooooooooo

Experiments 5–6
oooo

General discussion
oo

References

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Introduction
oo

Experiments 1–4
ooooooooo

Experiments 5–6
oooo

General discussion
oo

References

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Introduction
oo
Experiments 1–4
oooooooo
Experiments 5–6
oooo
General discussion
oo
References

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Introduction
oo

Experiments 1–4
ooooooooo

Experiments 5–6
oooo

General discussion
oo

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