

What is at-issueness? An experimental comparison of diagnostics

Abstract At-issueness is a key concept in theoretical semantics/pragmatics, but there is no consensus about how it is defined or diagnosed (e.g., [Tonhauser 2012](#); [Tonhauser et al. 2018](#); [Koev 2018](#)). We present experimental data investigating whether four widely used diagnostics for at-issueness yield consistent results. Our findings reveal significant differences across diagnostics, indicating they are not interchangeable. Since the diagnostics target distinct theoretical conceptions of at-issueness, these differences offer insight into their comparability.

1 Introduction

At-issueness is a key concept in theoretical semantics and pragmatics, distinguishing between at-issue propositions conveyed by an utterance, those contributing to its main point, and those that do not (e.g., [Karttunen & Peters 1979](#); [Horton & Hirst 1988](#); [Abbott 2000](#); [Faller 2003](#); [Potts 2005](#); [Tonhauser 2012](#)). Despite its importance, the concept lacks a unified definition. Instead, various theoretical notions ([Koev 2018](#); [Tonhauser et al. 2018](#)) and empirical diagnostics (e.g., [Tonhauser 2012](#)) have been proposed. This paper addresses the question whether four widely used diagnostics for at-issueness yield consistent results when testing the same stimuli. Our findings reveal significant differences across diagnostics, indicating they are not interchangeable. Since the diagnostics target distinct theoretical conceptions of at-issueness, these differences offer insight into the comparability of these conceptions.

The four diagnostics we tested are illustrated in (1–3) for sentence-medial non-restrictive relative clauses (NRRCs). As these are usually taken to contribute non-at-issue content, participants are expected to: Give low naturalness ratings under the QUD diagnostic (1) and the direct dissent diagnostic (2), choose one of the *yes*-responses under the ‘yes, but’ diagnostic in (3), and not interpret the speaker to be asking about the content under the ‘asking-whether’ diagnostic in (4).

- (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) Direct dissent diagnostic (e.g., [Tonhauser 2012](#); [Syrett & 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?

- (3) ‘yes, but’ diagnostic (e.g., [Xue & 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.

- (4) ‘asking whether’ diagnostic (e.g., [Tonhauser et al. 2018](#); [Solstad & 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?

Koev 2018 suggests that different diagnostics reflect distinct theoretical conceptions of at-issueness: First, the QUD diagnostic (1) aligns with Q(uestion)-at-issueness (Simons et al. 2010), which conceptualizes at-issue content as addressing a question under discussion (QUD; Roberts 1996; Ginzburg 1996) established in prior discourse (Amaral et al. 2007). Second, the direct dissent (2) and ‘yes, but’ diagnostics (3) reflect P(roposal)-at-issueness (Koev 2013), under which the at-issue content of an utterance constitutes its main assertion, understood as a proposal to update the common ground. Such proposals can thus be directly affirmed or denied using default discourse moves like polar response particles (PRPs; e.g., English *yes/no*; Farkas & Bruce 2010). In contrast, non-at-issue content is either presupposed (already entailed in the common ground; Stalnaker 1973; 2002), or newly imposed on the common ground (Murray 2014; AnderBois et al. 2015), and requires special moves for disagreement, like revision, correction, or negotiation (Potts 2005). Finally, the ‘asking whether’ diagnostic (Tonhauser et al. 2018) characterizes the at-issue content of questions as explicitly raises a QUD, whereas their non-at-issue content does not contribute to what the QUD is (following Roberts 1996). While closely related to Q-at-issueness, this diagnostic does not fully align with Koev’s Q/P distinction, a point we revisit in the discussion (§??).

1.1 medial appositives

Prior research has led to diverging conclusions about the at-issueness of certain types of content, potentially arising from differences between the diagnostics: Koev 2018 suggests that English medial appositive RCs can be Q-at-issue, but not P-at-issue, based on impressionistic judgment data: they behave as at-issue for the QUD diagnostic, but not for the direct dissent test. This is in line with Tonhauser’s 2012 findings for Paraguayan Guaraní medial appositive DPs. These behave as not-at-issue according to most diagnostics tested there (including direct dissent, and ‘yes, but’), but yielded mixed results with the QUD-diagnostic.

- experimental work in ... where propositions contributed by medial appositives are among the contents receiving the lowest at-issueness ratings under the ... diagnostics
 - different results from the QUD-diagnostic Chen 2024, Experiments 1, 2 found that attempting to address questions with the content of German medial appositive RCs lead to much lower question-answer match ratings ($\mu \approx 2$ out of a five-point scale) than main clauses ($\mu \approx 4.1$)¹ However, in this study, the NRRCs contained the expression *übrigens* ‘by the way’, which Chen suggests is a marker of non-at-issue status of the clause.
 - Destrueel et al. 2015: when German medial appositives are contradicted in the following utterance, then most participants choose to signal agreement and contrast *yes, but* ($\approx 90\%$), suggesting NAI status.
 - Tonhauser et al. 2018, Medial appositives are among the contents that get the lowest ratings for asking-whether diagnostic in their Exp. 1a, suggesting that these are NAI;
 - Solstad + Bott 2024

1.2 final appositives

- these diagnostics have led to arguments that sentence-final appositives are more at-issue than their medial counterparts
- found that sentence-medial appositives are less at-issue than sentence-final ones using the direct dissent test.
- These two diagnostics are characterized by Koev 2018 as *forward-looking*, as they test whether a given content is at-issue relative to utterances in the following discourse.

¹ Notably, their Exp. 1 found that this effect is only present tendentially for 4–6 year old children, and Exp. 2 found that it is present but a bit weaker in adult second language learners of German (with first language Mandarin Chinese).

- Syrett & Koev 2015 Their Exp. 2 found that given a choice to disagree with a preceding main clause or appositive content, participants choose disagreeing with the main clause over a medial appositive around 80% of the time. However, for final medial RCs, this proportion is reduced to around 65%. They conclude that final appositive clauses can compete with main clause content in the direct-dissent diagnostic, allowing these contents to be more readily interpreted as at-issue.
- see also corpus study in ander bois et al cited in S+K
- drozdov: no differences

In contrast, sentence-final appositives have been argued to be less at-issue than sentence-medial ones, that is, using

- Koev 2018: English sentence-final slifting parentheticals (e.g., *Ellen is a passionate cook, her fiancé claimed*; p. 11): these behave as at-issue based on the direct-dissent but not the QUD diagnostic.

Those findings, are, in turn, in line with the experimental study in, which

	medial appositives	final appositives
Koev 2018, QUD-diagnostic English, impressionistic judgments	AI	–
Tonhauser 2012, QUD P. Guaraní, fieldwork elicitation	?	–
Chen 2024, QUD German, 5-point rating experiment	NAI	–
Destrueel et al. 2015, ‘yes but’ German, forced-choice continuation	NAI	–
Koev 2018, direct dissent English, impressionistic judgments	NAI	–
Tonhauser 2012, direct dissent P. Guaraní, fieldwork elicitation	NAI	–
Syrett & Koev 2015, direct dissent English, forced-choice continuation	NAI	AI

1.3 presupposed content

- Chen 2024, Exps. 1,2, QUD diagnostic difference between German “soft triggers” (*entdecken*, discover; *gewinnen*, win, *schaffen*, manage to), whose content can be used to felicitously address a previous question (mean Q+A match rating: $\mu \approx 3.7$), whereas “hard triggers” (*auch*, too; *wieder*, again; it-clefts) came with significantly lower ratings (≈ 2). This effect was found for adult participants, but only present tendentially on 4–6 year old children (Exp. 1), and present, but weaker in L2 learners of German with L1 Mandarin Chinese.
- Xue & Onea 2011, Exp. 2, use the ‘yes, but’ diagnostics to assess the (non-)at-issueness of the projective content of German expressions *wissen* ‘know’, *entdecken* ‘discover’, *auch* ‘too’, *wieder* ‘again’,

	<i>too</i>	<i>again</i>
Chen 2024 , QUD German, 5-point rating experiment	NAI	NAI
Xue & Onea 2011 , ‘yes, but’ German, forced-choice continuation	NAI	NAI

1.4 clause-embedding predicates

- [Tonhauser et al. 2018](#)
- degen + tonhauser
- embedded content in sentences with clause-embedding predicates
- the projection of this content is modulated by its at-issueness
- testing the at-issueness of

	<i>discover</i>	<i>know</i>	<i>find out</i>
Chen 2024 , QUD German, 5-point rating experiment	AI	–	–
Xue & Onea 2011 , ‘yes, but’ German, forced-choice continuation	–	AI	?

1.5 How we will compare the diagnostics

2 Assessing at-issueness

2.1 QUD-diagnostic

The QUD diagnostic tests whether a propositional content associated with a declarative assertion (1B) can be interpreted as Q-at-issue by testing whether the assertion is felicitous as an answer to a preceding question that targets that content.

- show here

- (5) Q-at-issueness: (based on [Simons et al. 2010](#): 26, [Koev 2018](#): 2)
- A content m is Q-at-issue in a context c iff
- m is relevant to the QUD in c , and
 - p is appropriately conventionally marked relative to the QUD.

Here, m may be either a propositional content or a question meaning. Relevance to the QUD is defined as follows:

- (6) Relevance to the QUD in context c (based on [Simons et al. 2010](#): 13)
- A proposition p is relevant the QUD iff it contextually entails in c a partial or complete answer to the QUD.
 - A question q is relevant to the QUD, iff it has an answer that is relevant to the QUD.

The QUD-diagnostic from [Tonhauser 2012](#) operationalizes Q-at-issueness through naturalness judgments. It builds on two assumptions:

- An overt question explicitly introduces a QUD.²

² add reference

- ii. An utterance is felicitous only if its at-issue content is relevant to the QUD (Amaral et al. 2007; Tonhauser 2012).

Koev suggests that this diagnostic is *backward-looking*, because it tests whether a given content is at-issue relative to the previous discourse.

To test whether a given content m can be construed as Q-at-issue, participants are presented with a context that establishes a QUD via an overt question, followed by a response that includes m . For instance, (1) is used to diagnose the status of the content m of the appositive RC (Greg bought a car) conveyed by B's utterance U , by presenting it as a response to a question Q that m is relevant to (What did Greg buy?), and asking a naturalness rating for U as a response to Q .

- (1) 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?

If m (Greg bought a car) is interpreted as addressing the QUD, the response should receive high naturalness ratings. However, responses like (1B) typically receive low ratings, suggesting that m is not at-issue, that is, even though m is relevant to Q and thereby satisfies the first part of the definition in (5a). The low naturalness should, therefore, reflect that m is not-at-issue due to the second part of the definition in (5b): The low ratings for (1B) support the claim that appositive RCs are not appropriately conventionally marked to contribute at-issue content.

- Chen 2024 used this diagnostic comparing

2.2 Direct dissent and 'yes, but' diagnostic

Accordingly, the direct-dissent diagnostic (2) tests whether a proposition associated with the initial utterance (2A) can be interpreted as P-at-issue by testing whether it can be felicitously contradicted using *no*. Relatedly, the 'yes, but' diagnostic (3) assesses whether speakers prefer to signal agreement (using *yes*) or disagreement (using *no*) with the main assertion when contradicting the tested content.

The direct dissent diagnostic (2) and the 'yes, but' diagnostic (3) reflect the notion of P(roposal)-at-issueness, based on the assumption that at-issue content contributes to the main assertion of an utterance, which is taken to constitute a proposal to update the common ground.

- (7) P-at-issueness: (Koev 2013; 2018)
 A proposition p is P-at-issue in a context c iff
- p is a proposal in c and
 - p has not been accepted or rejected in c .

Under this conception, the at-issue assertion is the contribution of an utterance that can be directly assented or dissented with using default discourse moves (in the sense of Farkas & Bruce 2010), for instance, using polar response particles (like English *yes/no*). Conversely, non-at-issue content is assumed to be entailed by the common ground prior to the utterance in question (e.g., presupposed content, Stalnaker 1973; 2002), or imposed on the common ground (Murray 2014; AnderBois et al. 2015). Importantly, the diagnostics in (2) and (3) build on the assumption that non-at-issue content requires non-default discourse moves (such as revision, correction, or negotiation) to be dissented with.

- that it should be possible to signal (at least partial) agreement with the main assertion of an utterance even when contradicting is non-at-issue content. It tests whether speakers prefer signaling agreement or disagreement with the previous assertion (using *yes/no*) in responses that contradict the content in question.

- Syrett & Koev 2015, Exp. 2: used a variant of the direct-dissent diagnostic within a forced-choice continuation task.
- utterance that included some appositive content (illustrated here for a medial appositive RC) polarity particle *no* to disagree choice to disagree with the main clause content, or the appositive content.

- (8) A My friend Sophie, who performed a piece by Mozart, is a classical violinist.
 B1: No, shes not. (target: main clause)
 B2: No, she didnt. (target: appositive)

to avoid concerns that the choice about which proposition to disagree with may be affected by the participants opinion about the content of these propositions, we instead chose a version of the direct dissent task that more directly targets the question whether disagreement using *no* is acceptable, by using acceptability judgments.

2.3 Asking whether

This diagnostic tests whether a content associated with a polar question (4) can be interpreted as at-issue by testing whether informants will understand it as the main issue being asked about.

Because the definition in (5) references the preceding context, Koev (2018) suggests that QUD-at-issueness is a backward-looking notion of at-issueness. However, overt questions may explicitly raise a QUD³, and thereby make a content Q-at-issue in the subsequent discourse. This is what is targeted by the ‘asking whether’ diagnostic in (4) (Tonhauser et al. 2018), based on the assumption that it is the at-issue content of interrogatives that partitions the context set, as opposed to their non-at-issue content (p.502).

- (4) *Is Greg, who bought a new car, envied by his neighbor?*

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

explain explain If participants respond "no," this suggests that the appositive content (Greg bought a new car) is not part of the at-issue content of the interrogative, providing evidence that it is not Q-at-issue. This diagnostic thus complements the QUD-diagnostic by probing the at-issueness of content from the perspective of explicitly raised questions rather than previously established ones.

based on the assumption that it is the at-issue content of interrogatives that partitions the context set, as opposed to their non-at-issue content (Tonhauser et al. 2018 p.502).

3 Discussion

3.1 Direction

3.2 Speech-act

3.3 Logical (in)dependence between contents

- Some diagnostics, especially (dis)agreement also interact with speaker commitments
- if the embedded content is false participants may choose to disagree with the main assertion, not necessarily because it is interpreted as at-issue, but because it is assumed to be true, and entails that the at-issue content is false.

³ add reference

3.4 Koev's dichotomy

If we contrast these notions by whether what is at-issue is determined by a declarative vs. an interrogative utterance, the asking whether test aligns more closely with the assumptions of the QUD-based notion of Q-at-issueness. However, Koev suggests that the two notions also differ in their directionality in discourse, arguing that the use of the diagnostics and definitions of at-issueness in the literature suggest that Q-at-issueness of a content is determined by the previous discourse (backward-looking), whereas P-at-issueness determines what will be at-issue at the point of the utterance and in subsequent discourse (forward-looking). Considering that the 'asking whether' diagnostic assumes that the at-issue content of an interrogative makes a content Q-at-issue in the discourse moving forward, this suggests that the dichotomy between forward-looking P-at-issueness and backward-looking Q-at-issueness might benefit from refining it by considering all logically possible combinations between speech act (assertion vs. question) and directionality in discourse (backward vs. forward).

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