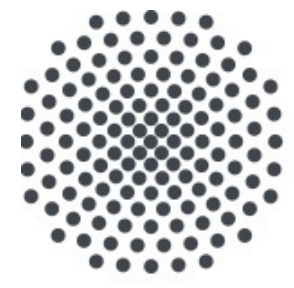


# QUESTION EXPECTEDNESS AS A MEASURE OF AT-ISSUENESS?



University of Stuttgart  
Germany

Swantje Tönnis\* & Judith Tonhauser\*\*  
University of Stuttgart

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## MOTIVATION FOR A NEW MEASURE OF AT-ISSUENESS

Simplified definition of at-issueness wrt. question under discussion (QUD) (Roberts 1996)

A proposition  $p$  is at-issue relative to a QUD iff  $?p$  is relevant to the QUD, where  $?p$  is relevant to a QUD iff it has an answer which contextually entails a partial or complete answer to the QUD. (Simons et al. 2010:316ff.)

→ Main clause (MC) proposition at-issue, appositive relative clause (ARC) proposition not at-issue relative to QUD in (1).

(1) QUD: Where is Peter? – Peter, who likes pizza, is at the music store. (At-issue content highlighted in gray.)

## CUES FOR AT-ISSUENESS

▶ **Bottom-up cues: prosody** (e.g., Vaikšnoraitė et al. 2019), **lexical meaning** (e.g., Destruel et al. 2015, Potts 2005, Tonhauser et al. 2018), or **syntactic cues** as in (1) (e.g., Potts 2005, AnderBois 2013).

▶ **Current measures all bottom-up:** direct assent/dissent as in (2) (e.g., Amaral et al. 2007, Xue & Onea 2011), *Did speaker answer QUD?* (e.g., Tonhauser 2012), projection (Tonhauser et al. 2018), etc.

(2) Peter, who likes pizza, is at the music store. –  
No, he's not at the music store. / #No, he doesn't like pizza.

▶ **Top-down cues:** At-issueness is QUD-dependent.

(3) QUD1: Where did Louise go yesterday? –  
Henry discovered that she had a job interview at Princeton.

(4) QUD2: Why is Henry in a bad mood? –  
He discovered that Louise had a job interview at Princeton.

Examples adapted from Simons (2007)

▶ **How does linguistic context affect at-issueness?**

▶ **Can we manipulate the QUD to be addressed by target sentence?**

## AT-ISSUENESS AND QUESTION EXPECTATIONS

▶ **Assumption:** Speakers have expectations about which QUD(s) could be addressed by next sentence in context. (Kehler & Rohde 2017, Tönnis 2021)

Proposal

▶ **The more the question answered by content  $c$  of utterance  $U$  is expected in the context preceding  $U$ , the more  $c$  is at-issue.**

▶ **Novel measure:** Measure the expectedness of question answered by  $c$ , and test whether it correlates with bottom-up measures.

▶ **Empirical challenge:** How to manipulate expectedness of the question answered by content  $c$ ?

▶ **Previous studies did not manipulate  $Q$  to be addressed by  $c$ :** Degen & Goodman (2014) manipulated contexts to evoke global QUD (not local). Westera & Rohde (2019) elicited  $Q$ s in corpus snippets (*Which question is evoked at this point in the text? Is it answered?*), no manipulation of  $Q$ .

## LESSONS LEARNED FROM OUR PREVIOUS STUDIES

▶ We conducted several variants of Study 1 (detailed summary on GitHub\*\*\*)

▶ **Part I:** expectedness of question(s) in a context: *How strongly do you expect the next sentence to be about  $Q$ ?* (see Tönnis & Tonhauser 2022)

▶ **Part II:** some bottom-up measure of at-issueness of  $c$  in target sentence wrt.  $Q$

▶ **Study 1: At-issueness of complement (CC) of factive verbs** [FAILED]

▶ **30 stimuli from Vaikšnoraitė et al. (2019)**

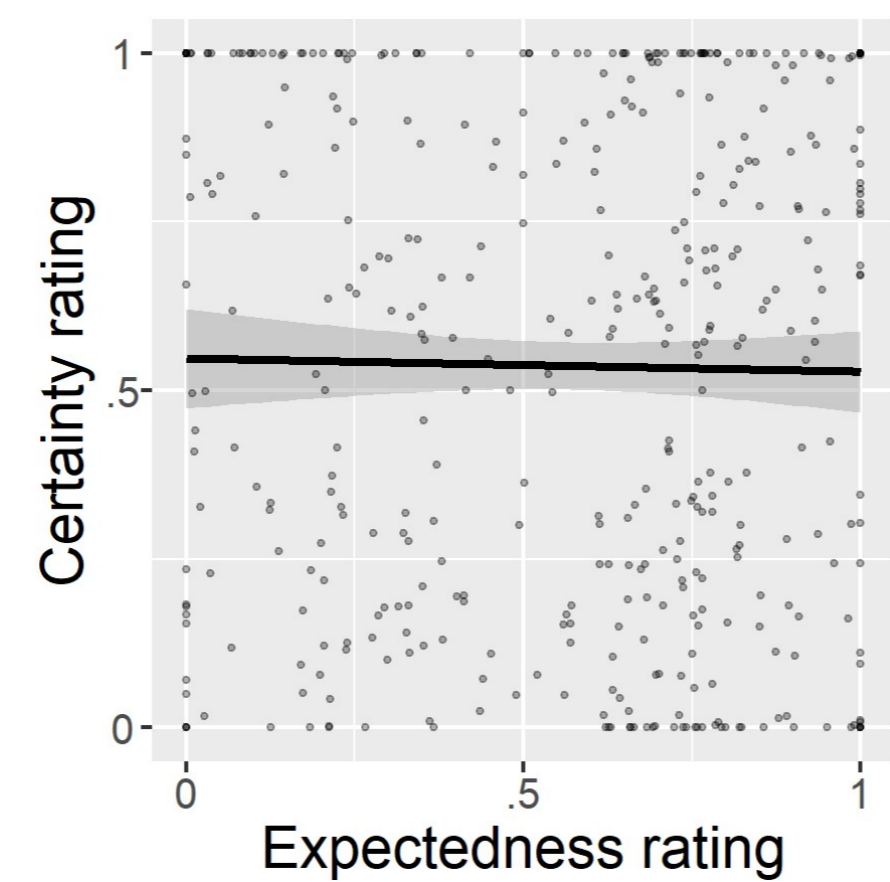
**Context:** *Ann recently met a very nice man. They've been out several times and she seems very fond of him. But yesterday she came back from a date with him and was very angry, but she doesn't want to tell me why.*

**Expectedness of  $Q_{CC}$ :** *What was wrong with the man?*

**Target:** *Perhaps she discovered that he was hiding something.*

**At-issueness by projection of CC** (Gradient Projection Principle by Tonhauser et al. 2018):

*Is the speaker certain that the man was hiding something?*



▶ **Lesson:** A question evoked in context is not always rated as expected.

▶ **Pilot 1: Relative expectedness (30 stimuli)** [FAILED]

▶ **Context, targets and at-issueness measure:** as in Study 1  
**Relative expectedness** of  $Q_{CC}$  answered by CC as in Study 1, and  $Q_{MC}$  answered by MC → *about person X*, instead of *about Q*:  
*How strongly do you expect the next sentence to be about a. Ann or b. the man?*

▶ **Lesson:**  $Q_{MC}$  cannot easily be formulated/is ambiguous

▶ *Why was Ann angry?* can be answered by both MC and CC. If CC not at-issue,  $Q$  unnatural: *What is Ann's mental state with respect to the man hiding something?*

▶ **Pilot 2: Clear contrast wrt. expectedness (2 stimuli)** [FAILED]

▶ **Context of a party scenario:** *I'm so upset! We all know where Sue's boyfriend Tom is every Monday, only Sue doesn't. But lately she seems to be angry with Tom, that bastard.* ← made  $Q_{CC}$  (below) unexpected. [2<sup>nd</sup> context:  $Q_{CC}$  expected]

**Expectedness of  $Q_{CC}$ :** *Where is Tom every Monday?*

**Target:** *Maybe she discovered that he is at Mary's.*

**At-issueness:** certainty ratings of CC (as in Study 1)

▶ **Lesson:**  $Q_{CC}$  answered in context is not always rated as less expected.

▶ e.g., due to gossip scenario, social bonding (see Coppock 2018)

▶ **Pilot 3: Appositive relative clause (4 stimuli)** [PARTLY SUCCESSFUL]

▶ **Context:** *S is looking for P. / S is trying to guess P's favorite food.*

**Relative expectedness** of *Where is P?* and *What does P like?*

**Target:** *P, who likes pizza, is at M's house. / P, who is at M's house, likes pizza.*

**At-issueness:** *Is target a good continuation?* (no variation for projection measure)

▶ **Result:** Expectedness differed wrt. context, but no correlation with at-issueness.

▶ **Lesson:** Exp-measure is coarse, at-issue-measure not sensitive enough

## PILOT 4: APPOSITIVE RELATIVE CLAUSE (N=20)

▶ **Contexts** (participants saw one of them) [SUCCESSFUL]

(5) a. Mary is looking for Peter and Donald.

b. Mary wants to cook something that Peter likes and something that Donald likes.

▶ **Part I: expectedness of questions** (evoked by (5a) or (5b) respectively)

(6) How strongly do you expect the next sentence to be about

a. where Peter is?

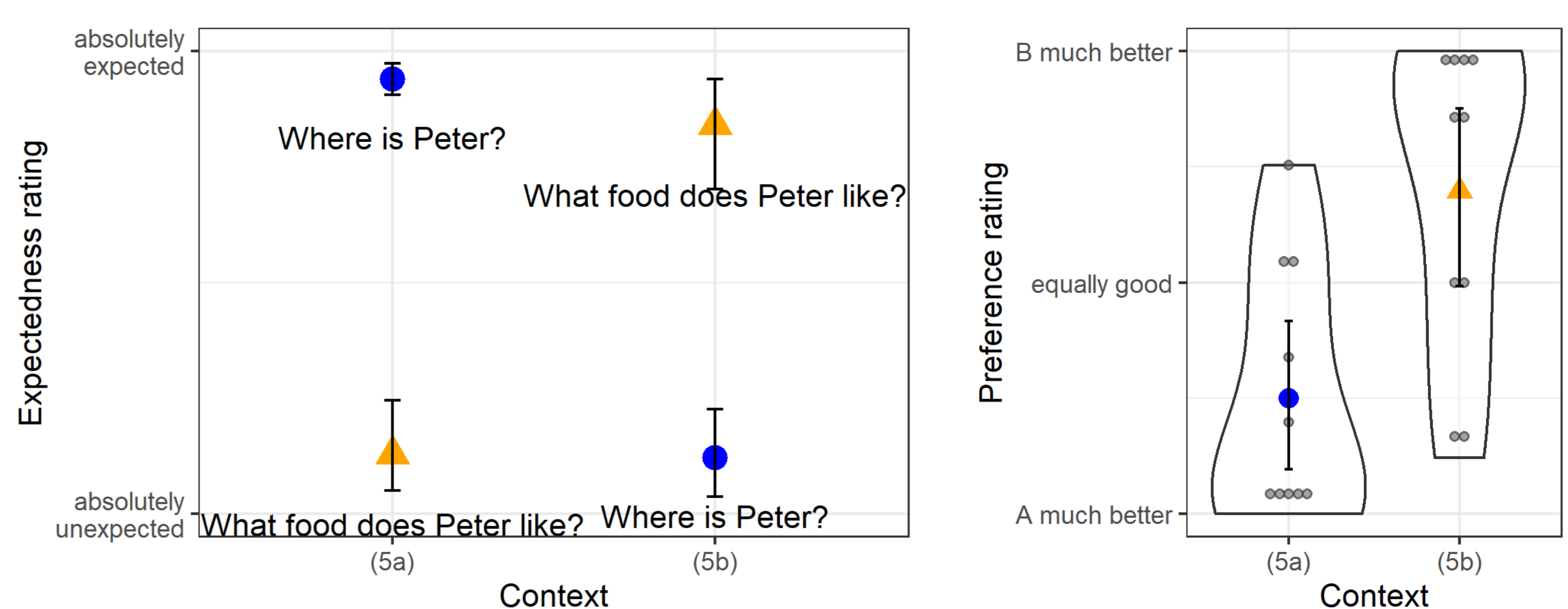
b. what food Peter likes?

▶ **Part II: preference rating between A and B**

A: Peter, who likes pizza, is at the music store. (MC at-issue wrt. (6a))

B: Peter, who is at the music store, likes pizza. (MC at-issue wrt. (6b))

## RESULTS



▶ **Question expectedness depends on the contexts as predicted.**

▶ **Preference for sentence where MC is at-issue wrt. more expected  $Q$**

## CONCLUSION

▶ Question expectedness measures at-issueness in straightforward cases.

## SELECTED REFERENCES

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