

A tale of two predicates: Predicting projection variation between *know* and *be right*

A long-standing challenge for analyses of presupposition triggering is pairs of expressions that share (some of) the same entailments but that differ in which of the entailments are presuppositions (e.g., Fillmore 1971; Abusch 2002, 2010; Abrusán 2011; Schlenker 2008). A sample pair is *know* and *be right* in (1): both entail BEL, that Kat believes that dinner is ready, and CC, that dinner is ready, but the latter is projective with *know* whereas the former is projective with *be right*.

- (1) BEL: Kat believes that dinner is ready; CC: Dinner is ready
- a. Kat knows/is right that dinner is ready. [CC and BEL entailed]
 - b. Kat doesn't know that dinner is ready. [CC is presupposed/projective]
 - c. Kat isn't right that dinner is ready. [BEL is presupposed/projective]

We present an analysis that predicts the projection variation between *know* and *be right*. This analysis, which is formulated in the Rational Speech Act (RSA; Frank and Goodman 2012; Degen 2023) framework, captures that both predicates entail BEL and CC, but also that *be right* differs from *know* in requiring that CC must have been previously claimed by the attitude holder. Empirical support for the analysis comes from a corpus study and an experiment.

The contextual requirement of *be right* is that the attitude holder must have claimed CC and is therefore publicly committed to it: *be right* is acceptable when this requirement is satisfied, as shown in (2), but not when it is violated, as in (3). By contrast, Tonhauser et al. 2013 showed that *know* doesn't have this requirement and can be used out of the blue.

- (2) A group of friends is eating at a steakhouse. Raul's new friend Mari has joined them.
Mari: Animals shouldn't be eaten.
Raul: Mari is right that animals shouldn't be eaten.
- (3) Raul and Mari have just arrived at a restaurant when a stranger approaches them.
Stranger: # You're right that animals shouldn't be eaten.

In a corpus study, we analyzed 51 uses of positive and negative *be right* in the speech section of the Corpus of Contemporary American English (Davies 2008-). Considering the preceding context as roughly the ten sentences before *be right*, we found that the attitude holder claims CC or is quoted to have claimed CC, verbatim or in paraphrase, in the preceding contexts of 50/51 cases. In the last case, the claim about CC is not overt in context, but it is a famous quote. (4) illustrates the claim for the utterance *you're right that women are energized*, where S1 is the attitude holder.

- (4) S1: Dr. Anita Hill spoke. A number of women spoke. **Women are energized** and mobilized around this and beyond this hearing. I mean, ironically today, the Violence Against Women Act would be expiring. [...]
S2: I think **you're right that women are energized**. I think the intensity's up to here.

Empirical support for these predicates' projection differences comes from Degen and Tonhauser 2025 Exp. 1: CC is more likely to be at-issue with *be right* than with *know*, and less projective with *be right* than with *know* (see Fig. 1). This result fits with Simons's 2007 suggestion that *know*-utterances are natural when the QUD is about BEL. On the other hand, *be right*-utterances appear most natural when the QUD is about CC or whether the attitude holder is right.

To capture these empirical targets, our analysis builds on the RSA analysis of CC projection of *know* from under negation by Scontras and Tonhauser 2025 (ST2025): A literal listener interprets utterances according to their semantics (where positive *know*- and *be right*-utterances entail BEL and CC; negation is truth-conditional so that negative *know*- and *be right*-utterances entail neither BEL nor CC). A speaker reasons about this listener in choosing utterances. Projection inferences arise by a pragmatic listener reasoning about utterance informativity with respect to the QUD and private speaker assumptions.

In the *know* model, four possible world states \mathcal{W} code whether Kat believes that dinner is ready (BEL:1/0) and whether dinner is ready (CC:1/0). There are six possible utterances, whose literal meanings are each compatible with a subset of \mathcal{W} : *know*, *think*, an utterance expressing CC, and their negated variants. QUDs are modeled as a partition over \mathcal{W} (Kao et al. 2014). The QUD BEL? (whether Kat believes that dinner is ready) partitions \mathcal{W} by whether Kat believes (BEL:1) or not (BEL:0); the QUD CC? (whether dinner is ready) partitions \mathcal{W} by whether dinner is ready. Adapting Qing et al. 2016, the analysis assumes that the literal listener interprets utterances relative to the speaker’s private assumptions A about the world. The literal listener’s interpretation with respect to QUD BEL? is a probability distribution over BEL:1 and BEL:0 that is modulated by the assumed private assumption $a \in A$. The speaker S_1 observes the true state of the world w and wants to convey the correct answer to the QUD relative to private assumption a . The speaker evaluates how likely the literal listener is to infer the correct answer given each of the six possible utterances. The pragmatic listener L_1 observes an utterance and updates their prior beliefs about the world state and speaker’s private assumption a by reasoning about what world state and assumption the speaker used in choosing their utterance.

To describe the contextual requirement, the changes to ST2025 are, first, that the possible world states are expanded to 8, including whether Kat claims that dinner is ready (SAY:1/0), so that the positive and negative *be right* requires SAY:1; second, in the prior over world states, the combination of SAY:1 and BEL:0 is unlikely, encoding the Gricean maxim of quality – if a speaker claims something she typically believes it. In addition, the utterance alternatives are *be right*, *claim*, an utterance expressing CC, and their negated variants. Finally, the pragmatic listener, upon observing an utterance, infers the QUD rather than already knowing it; see Fig. 2.

Literal listener: $P_{L_0}(q(w) u, a, q) \propto \sum_{w' \in a \cap [u]} \delta_{q(w)=q(w')} \cdot P(w)$ Speaker: $P_{S_1}(u w, a, q) \propto \exp(\alpha(\log(P_{L_0}(q(w) u, a, q) - C(u))))$ Pragmatic listener: $P_{L_1}(w, a, q u) \propto P_{S_1}(u w, a, q) \cdot P(w) \cdot P(a) \cdot P(q)$

Figure 2: Model specification for *know* and *be right*, with changes to ST2025 in blue.

We predict that a pragmatic listener who observes a negated *be right*-utterance is less likely to infer that CC is true (that is, CC is less projective) than one who observes a negated *know*-utterance, and more likely to take the speaker to be addressing a QUD about CC (that is, CC is more at-issue). Both predictions are in line with the results of Exp. 1 in Degen and Tonhauser 2025 (Fig. 1). Crucially in our model, the private assumptions entailing BEL: 1 or CC: 0 are just those with which negated *be right* is an informative way to address CC?, relative to other utterances.

Selected References: • Abrusán 2011. Predicting the presuppositions of soft triggers. *L&P*. • Abusch 2010. Presupposition triggering from alternatives. *Journal of Semantics*. • Degen 2023. The Rational Speech Act framework. *Annual Reviews*. • Degen & Tonhauser 2025. Projection inferences: On the relation between prior beliefs, at-issueness, and lexical meaning. *Glossa*. • Frank & Goodman 2012. Predicting pragmatic reasoning in language games. *Science*. • Qing et al. 2016. A rational speech-act model of projective content. *CogSci*. • Scontras & Tonhauser 2025. Projection without lexically-specified presupposition: A model for *know*. *Sinn und Bedeutung Proceedings*. • Simons 2007. Observations on embedding verbs, evidentiality, and presupposition. *Lingua*. • Tonhauser et al. 2013. Toward a taxonomy of projective content. *Language*.

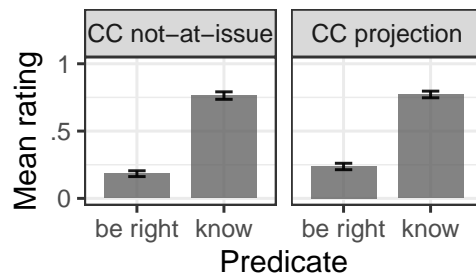


Figure 1: Mean ratings from Degen and Tonhauser 2025. Error bars indicate 95% bootstrapped CIs.