

Inferring Together

The Asymmetry Constraint on Revisionist Reporting

This paper is about *revisionist attitude reports* (“RRs”; Recanati, 2012; Blumberg & Holguín, 2018; Blumberg & Lederman, 2021; Tancredi & Sharvit, 2022; Benbaji-Elhadad, 2023, Mayr&Schmitt, 2024; Deal 2025), like the following one:

Vegan: Ann thinks that every vegan has to supplement B12. Bob says to his vegan friend Carol, whom Ann has never met or heard of in any way: “Ann thinks you have to supplement B12.”

The report is striking because Bob attributes to Ann a belief about a person she is unaware of. Its felicity goes against the intuitive idea that true belief reports should accurately describe the content of the ascriber’s belief state. In this paper, we report the results of two online survey experiments on revisionist reports which suggest the phenomenon is more systematic than some recent theorists have suggested. Our key finding is that RRs obey a general *asymmetry constraint*; they are felicitous when, as above, the ascriber believes a major premise which is updated with the contribution of a minor premise, but infelicitous when the information contributed by each respective agent is reversed, like in the following report:

Reverse-Vegan: Ann thinks that Carol is a vegan, but doesn’t know anything about vegans. Bob believes that every vegan has to supplement B12, so he says to Carol: “Ann thinks you have to supplement B12.”

Study 1: Felicity of RRs

We used a 5 (inference pattern) by 3 (scenario) between-subjects design. Native English speakers (N = 502) were asked to make a truth-value judgment about a revisionist belief ascription, like *Vegan*, above. The main manipulation concerned the inference pattern that underwrote the ascription of the form *S* thinks *p*. We had a condition corresponding to each of the inference patterns listed in Table 1, where the ascriber believes the major premise and the ascriber believes the minor premise. We also included a reverse UI condition where the source of the premises is reversed: the ascriber’s belief is of the form “*o* is *F*”, while the ascriber’s belief is of the form “Every *F* is *G*.”

	Universal Instantiation (UI)	Disjunctive Syllogism (DS)	Modus Ponens (MP)	Exportation (EXP)
Major premise	Every <i>F</i> is <i>G</i>	<i>P</i> or <i>Q</i>	If <i>P</i> , then <i>Q</i>	The <i>F</i> is <i>G</i>
Minor premise	<i>o</i> is <i>F</i>	not- <i>P</i>	<i>P</i>	<i>O</i> is <i>F</i> .

Table 1. Inference patterns used in Studies 1 and 2.

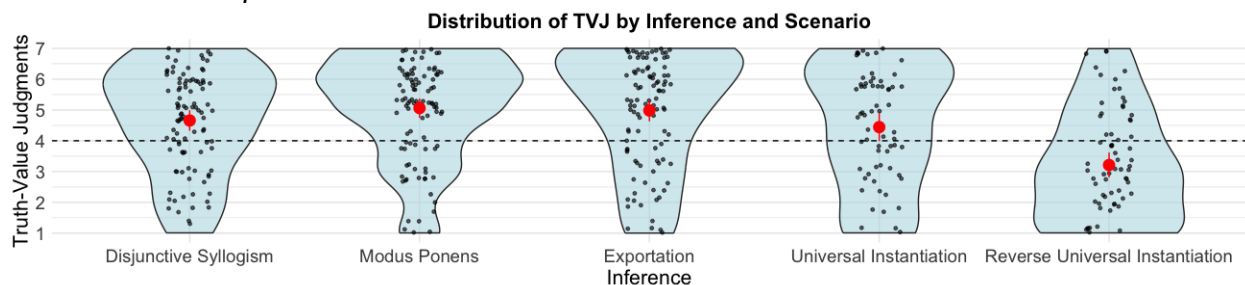


Figure 1. Study 1: Acceptability of RRs by inference pattern.

Contrary to theorists who deny that RRs are felicitous (e.g., Recanati 2012), we found that all inference patterns, with the key exception of Reverse Universal Instantiation were on average judged true. This finding spells trouble for error-theoretic explanations of RRs felicity, like Bio & Khemlani (2023), which claim that people simply fail to tease apart their perspective from the ascriber's. If this were the case, we would expect more people to judge Reverse Universal Instantiation to be true.

Study 2: The asymmetry constraint

The second study examined extension of the asymmetry constraint beyond UI. We used a 4 (inference pattern) by 2 (order) by 2 (scenario) between-subjects design. Again, native English speakers (N=323) were asked to make truth-value judgments about RRs based on the inference patterns listed in Table 1. Here, the crucial manipulation concerned order. In the **major-minor** condition the ascriber believed the major premise and the ascriber believed the minor premise. In the **minor-major** condition the ascriber believed the minor premise and the ascriber believed the major premise. As predicted, participants were more likely to judge RRs true in the **minor-major** condition (M = 4.31[3.45, 5.17]) than in the **major-minor** condition 3.26[2.44,4.09], with a significant effect of order, $b = -1.05$, $SE = 0.19$, $t(454) = -5.40$, $p < .001$.

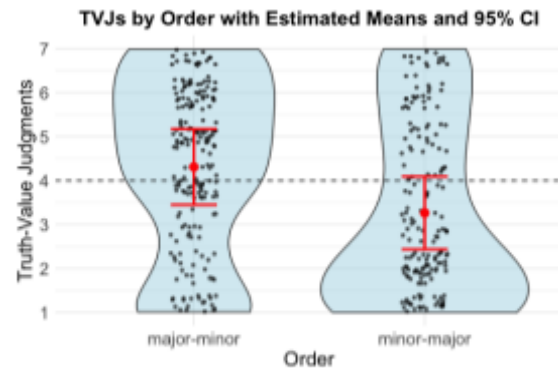


Figure 2: Study 2 results: acceptability of RRs by premise order.

The asymmetry constraint demonstrates an interaction between *information source* (which agent holds which belief) and *logical form* (what the underlying structure of the information is). Crucially, leading explanations of the felicity of revisionist reports, such as those from Blumberg & Lederman (2021), Tancredi & Sharvit (2022) Benbaji-Elhadad (2023), and Mayr & Schmitt (2024), currently lack the resources to explain such an interaction. Their models suggest that revision involves merging the information held by various agents into a single corpus from which to conduct inference, treating all information in the resulting corpus on a par. The asymmetry constraint shows that this cannot be right; subjects treat the information used in inference differentially based on information source and logical form.

To explain the phenomenon, we note that the observed asymmetry is in line with more general constraints on inference proposed in non-classical formal logics, particularly the relevance logic E. As such, we sketch a model using E, leveraging the features *Use Criterion* and *Entailment Restriction*, which naturally predicts all currently known instances of inferential asymmetry in revisionist reporting.

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