

The Search for Truth: Appositives Weigh In

Introduction The semantic and pragmatic contribution of appositives to their containing sentence is a subject of continuing debate in the literature. While unidimensional semantic accounts propose that appositives contribute their truth conditions to their containing sentence, multidimensional accounts predict that they do not. This project contributes to the debate over the truth-conditional status of appositives by building on pioneering experimental work by Syrett & Koev (2015). Syrett & Koev found in truth-value judgment tasks that appositives contribute a truth value to their containing sentence, suggesting a unidimensional approach in which appositives are treated as a type of conjunction. In four experiments, we replicated and extended this work by also testing conjunctions, allowing us to directly compare judgments of both appositives and conjunctions. Our findings contribute both a methodological and a theoretical point. First, we show that no conclusions about the truth-conditional contributions of appositives can be drawn from experimental work without further investigation of how participants provide truth-value judgments for complex sentences. While we replicate Syrett & Koev's results that appositives contribute truth values to their containing sentences, we demonstrate that participants are highly sensitive to task features when they compute the truth value of sentences with appositives and also, crucially, with conjunctions. Specifically, we show that both sentences containing appositives and sentences containing conjunctions can be judged true even when the appositive or one conjunct is patently false. It is unlikely that these results reflect semantic judgments, and we argue that they reflect truth only at the speech-act level.

Background Appositives, such as that underlined in (1), contribute *not-at-issue* content (Potts, 2005). As not-at-issue content, appositives generally project past negation and propositional attitude verbs, and generally do not contribute to resolving the Question under Discussion (QUD) (Ginzburg, 1996; Roberts, 1996/2012; Simons et al., 2010).

(1) Mary thinks that paddle boards, which are the segways of the ocean, are cool.

Potts (2005) observed that appositives appear to compose semantically independently from their main clause, as demonstrated in part by the inability to bind into appositives from matrix clauses.

- (2) a. No sailor_i who properly tied her_i bowline failed her_i sailing test.
b. No sailor_i, who properly tied her_i bowline, failed her_i sailing test.

Under a view in which appositives compose semantically independently from main clause content, appositive clauses have truth conditions, but these truth conditions do not combine with the truth conditions of the appositive's containing sentence. Recent experimental evidence (Syrett & Koev, 2015), however, has provided support for an opposed theoretical view in which appositives contribute a truth-value to their containing sentence in a similar manner as conjunctions, e.g. comparing (1) to (3), but with a different update potential on the discourse context (AnderBois et al., 2010; Murray, 2010).

(3) Mary thinks that paddle boards are the segways of the ocean and are cool.

Design Four experiments directly compared medial appositive relative clauses and conjunctions.

		First Clause	Second Clause
(4) Appositive	The square,	which is next to the filled triangle,	is dark blue
(5) Conjunction	The square	is next to the filled triangle and	is dark blue

Participants judged sentences to be either true or false descriptions of simple shapes, and rated their confidence in their choices. All studies manipulated the first clause type (*appositive* vs. *conjunction*), and the truth value of both the first clause (*T* or *F*) and the second clause (*T* or *F*), for a 2x2x2 design. Each trial displayed a target sentence like (4) or (5) that was true or false

relative to two common shapes shown above the sentence. The context was controlled by including a question about the shapes above each target sentence.

Experiments We found that participants were overwhelmingly confident in their truth evaluations, with the average confidence rating for each experimental condition in each experiment exceeding 4.3 on a scale from 1 (low conf.) to 5 (high conf.). Experiment 1 showed that under a general QUD (*What can you tell me about the shapes?*) participants judged sentences to be true only when both clauses contained true information (Fig. 1). This was reflected in main effects of first clause and second clause, and an interaction of first and second clause ($ps < .001$). We found no main effect of clause type, confirming that appositives and conjunctions patterned the same way. Experiment 2 used a specific QUD that targeted only the second clause, e.g., *What color is the square?* for (4) and (5). This manipulation gave the appositives the best chance to be ignored, as they were irrelevant to answering the QUD. Participants split on whether they behaved as in Exp. 1, or chose to disregard the truth of both the non-relevant appositive and conjunction clauses. This resulted in nearly 50% *true* responses when either a conjunction or appositive as first clause was false and the second clause was true (Fig. 2). These findings were reflected in main effects of first clause and second clause, and an interaction of first and second clause ($ps < .001$). In order to rule out an interpretation of Exp. 2 under which participants scanned sentences without comprehending them, Experiment 3 replicated the design of Exp. 2 with the inclusion of a verbatim memory sentence recognition task. We again found a response rate of 56% *true* for appositives and 48% *true* for conjunction sentences when the first clauses were false and the second clauses were true (Fig. 3). These results were reflected in main effects of first clause and second clause ($ps < .001$), but we again found no main effect of clause type. We also found high performance in the recognition task, with the mean participant response rate at 90% correct ($\pm 1.02\%$). This confirms that participants were reading the full sentences. Experiment 4 followed up on Syrett & Koev's findings that participants "ignore" appositives with inflammatorily false information at a higher rate than non-inflammatorily false appositives. Exp. 4 replicated the design of Exp. 2 with the false clauses altered to contain absurd or logically inconsistent content. Although participants were numerically more likely to endorse an inflammatorily false sentence containing an appositive than one containing a conjunction when the second clause was true (49% *true* vs. 39% *true*), this result failed to yield a significant effect (Fig. 4).

Conclusion Two consistent findings emerged across our experiments. The first is the parity of appositives and conjunctions. In the presence of a general QUD, appositives and conjunctions contributed truth values as predicted by semantic analyses of conjunctions: only when both clauses were true was the entire sentence judged as true. In the presence of a specific QUD targeting only the second clause in Exp. 2, participants differed in whether they treated appositives and conjunctions as in Exp. 1, or whether they disregarded the contribution of the irrelevant clauses. Exp. 3 showed that this result was not due to participants not fully reading the experimental items. The second finding across experiments is that even the truth contributions of conjunctions—whose semantic truth-conditional contributions are not debated—were modulated by an explicit QUD. Unless we are willing to give up our fundamental beliefs about the truth conditions of conjunctions, our findings support a view in which experimental judgments of truth are filtered through pragmatics. Because appositives and conjunctions patterned together, we conclude that appositives contribute a truth value to their containing sentence at the discourse level, but not necessarily at the level of the semantics. Such an analysis is compatible with observations that appositives interact with at-issue content in discourse; for example, appositive content can serve as the antecedent for ellipsis and anaphora (Potts, 2005, Amaral et al., 2007, Collins et al., 2014, i.a.). More broadly, our findings provide a note of caution for researchers arguing from experimental data to conclusions about semantic truth.

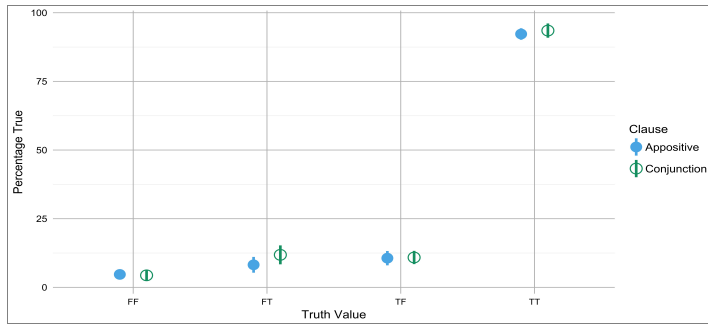


Fig. 1. Experiment 1 truth judgments for appositives and conjunctions under general QUD. Nsub=48 Nitem=80.

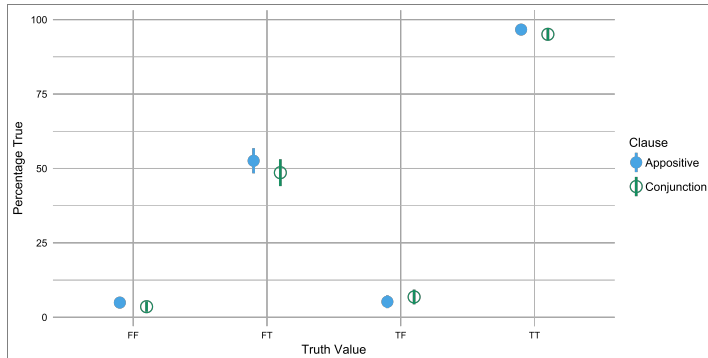


Fig. 2. Experiment 2 truth judgments for appositives and conjunctions under specific QUD. Nsub=48 Nitem=80.

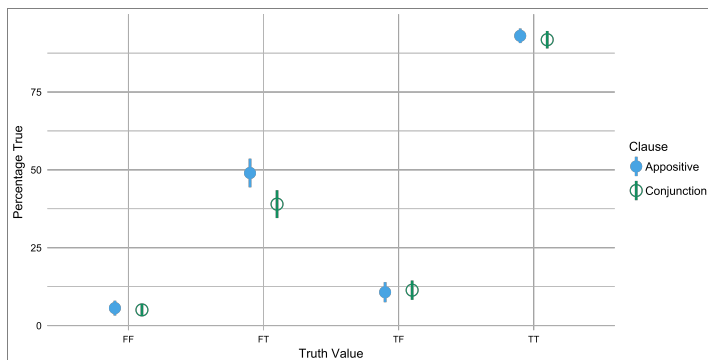


Fig. 3. Experiment 3 truth judgments for appositives and conjunctions under specific QUD, including inflammatorily false information. Nsub=48 Nitem=80.

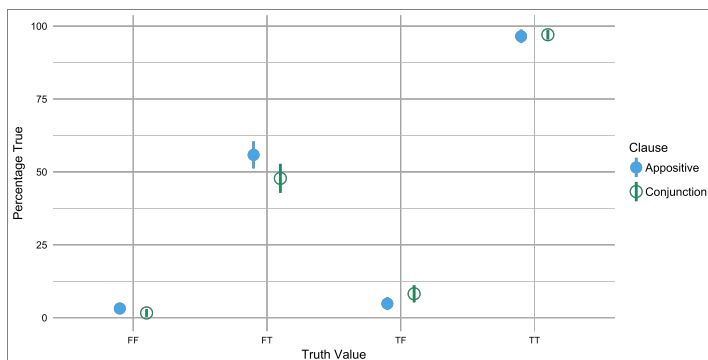


Fig. 4. Experiment 4 truth judgments for appositives and conjunctions under specific QUD, including comprehension questions. Nsub=48 Nitem=80.

Selected References AnderBois, S. et al. 2010. Crossing the appositive/at-issue meaning boundary. Murray, S. 2010. Evidentiality and the structure of speech acts. Potts, C. 2005. *The logic of conventional implicatures*. Roberts, C. 1996/2012. Information structure in discourse. Simons, M. et al. 2010. What projects and why. Syrett, K. and T. Koev. 2015. Experimental evidence.