

Blocking Presupposition by Causal and Identity Inferences

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Abstract If presupposition blocking is not due to inconsistency, it is systematically matched by presupposition-trigger-free examples of causal and identity inferences. (If John is a diver, he will bring his wetsuit to the party vs. John is a diver and he has a wetsuit. inference: John has a wetsuit because he is a diver.) If the same inference is assumed in the examples with the trigger, presupposition projection would mean that a variable becomes unbound. This alternative explanation by Trapping improves on the explanation of blocking by local satisfaction, which is specific to presupposition and makes some crucial false predictions.

There seems to be a consensus in the presupposition literature about three limitations on presupposition projection, the inference from an utterance containing a presupposition trigger to the triggered presupposition: Consistency, Trapping and Local Satisfaction. Consistency (viz. [1]) requires that projection will not make any of the contexts of the trigger inconsistent, Trapping (viz. [2]) requires that locally bound variables will not get unbound under projection and Local Satisfaction (viz. [3], LS hereafter) limits projection to happen only if the presupposition does not already hold in the local context of the trigger.

The paper argues that the effects of LS can be better explained by a combination of Trapping and independently required inferences of identity and causality. And that LS should be replaced by this combination, because better predictions result.

Examples of causality and identity inferences can be taken from visual perception and natural language interpretation. E.g. if we see Tom running in the direction of a bus stop while also seeing the bus approach in the distance, we will infer that Tom is trying to catch the bus, i.e. we identify the goal of Tom's running with the arrival of the bus and so infer that the bus is the reason why Tom is running. (1) gives two NL examples.

- (1) a. Tom stepped on a banana skin. He fell.
- b. Aliena broke her skis. She lost her last means of transport.

(1a.) is interpreted as implying that Tom fell *because* he stepped on the banana skin, and (1b.) as reporting one and the same event from two different angles. Such inferences are the bread and butter of normal perception and NL interpretation: little works without them. They are typically stochastic inferences in which the dominant probability of the connection is transformed into the assumption of the connection, thus adding information to the interpretation.

Assuming such inferences, it can be the case that a presupposition is inferred to be (partially) caused by or identical with (part of) a non-entailed part of the utterance. It then follows from Trapping that the presupposition cannot be projected, since it contains a locally bound variable for its non-entailed cause or is itself identified with this non-entailed material. TCI (trapping from causal and identity inferences) will be the name of this explanation of blocking in the rest of this abstract.

Very often, TCI leads to the same predictions as local satisfaction, as in (2ade). In (2b) they clearly diverge.

- (2) a. If John got married, his wife must be happy. (the marriage caused John to have a wife)
- b. If John has children, his grandchildren will be rich. (having children is an insufficient but necessary cause of having grandchildren)
- c. If John is a diver, he will bring his wetsuit to the party. (divers will often buy a wetsuit)
- d. If John killed his wife, he must regret murdering her. (identity)
- e. If the war is over, Nixon knows the war is over. (identity)

(2c.) was thought to be reducible to LS. But as we all know many people but not all people own their professional equipment, so that it is by no means a question of logic that if John is a diver, he has a wetsuit, even if we add the premiss that many divers do own wetsuits. It is rather the reverse: very few non-divers own a wetsuit. The surprise at learning that John would have a wetsuit goes down dramatically under the assumption that he has one because he is a diver, a standard causal inference, as can be seen from (3). There is no way of reducing blocking in this case to local satisfaction, since everybody knows that not all divers have a wetsuit. Even if one assumes that the percentage of divers that do is rather small, say 10%, there is still blocking.

- (3) John is a diver. He has a wetsuit in his attic. (inferred: John has a wetsuit because he is a diver.)

LS and TCI also agree on trivial identity as in (4ab.), but LS is not able to deal with (4c.) where the identity cannot be inferred by logic and extra premises.

- (4) a. If John killed his wife, he must regret murdering her.
- b. If the war is over, Nixon knows that the war is over.
- c. If Aliena broke her skis, she regrets that she lost her only means of transport.

Where however causality runs from the presupposition in the consequent to the antecedent as in (5), the predictions of the two accounts will be systematically different. Most people infer that John has children in (5a.), as predicted by TCI in the absence of a causal inference (children cause grandchildren and not the other way around), while LS predicts that such an inference is not possible, since having grandchildren entails having children. In (5b.), people infer that John is a diver and so does TCI (one has a wetsuit because one is a diver, not the other way around). Here TCI agrees with LS, precisely because there is no way to deduce that John is a diver from his having a wetsuit, even allowing extra true premises. The probability that someone with a wetsuit is a diver is however greater than the probability that divers have their own wetsuit.

- (5) a. If John has grandchildren, his children must be happy.
- b. If John has a wetsuit, he is not sorry he is a diver.

The observations above obtain when the sentences are presented out of the blue. Non-projecting readings can be forced as in (6), using Consistency.

- (6) a. I do not know if John has children. But if John has grandchildren, his children must be happy.
- b. (?) I do not know if John is a diver. But if John has a wetsuit, he is happy to be a diver.

Perhaps the strongest argument for TCI are examples like (7), due to McCawley. The complement projects in (7a.) : John is a gambler, but not in (7b.) due to the causal inference that John’s being a baker is part of what causes him to make the best bagels in town. The LS account does not apply in this case.

- (7) a. John dreamt that he was a baker and that everybody knew that he was gambling.
- b. John dreamt that he was a baker and that everybody knew he made the best bagels in town.

Additional evidence for TCI is easy to construct from natural causal inferences and identity inferences. E.g. taking up (1b.) gives (8). Blocking can be prevented by adding an alternative explanation (“but if he stumbled on purpose, she is not sorry at all.”), thereby undoing the blocking causal inference. Similarly in (4c.) , blocking can be undone by inserting an additive particle “also”, thereby marking the distinctness of the two events.

- (8) If Tom stepped on a banana skin, Mary is sorry that he fell.

The closest competing theory (viz. e.g. [5]) replaces logical consequence in local satisfaction by strong stochastic connection. (5) however gives examples of strong stochastic connections that do not lead to blocking. The discussion of (2c.) also shows that, for blocking, the stochastic connection does not need to be strong, as long as it is causal.

The TCI account places the source of blocking of projection outside the realm of logic and concepts and makes it part of empirically based default inferences in interpretation. The full paper sketches an account of these inferences in an update semantics using stochastic comparison in a situation of forced choice between $cause(e_1, e_2)$ and $\neg cause(e_1, e_2)$ and between $x = y$ and $x \neq y$ in the interpretation process that needs to decide whether an old object is recognised or a new one is assumed and between causally linking the new event and keeping it disconnected.

TCI has two consequences for a general account of presupposition projection. In the first place, it is necessary to give up the idea that presupposition accommodation is a question of repairing the context. One should rather see the speaker's use of the trigger as a defeasible sign that the speaker accepts the presupposition. This notwithstanding the correct observation that the use of a presupposition trigger is only possible in contexts in which its presupposition holds. The second consequence is that there is nothing special about presupposition projection once one removes LS. It carries exactly the same restrictions (Trapping and Consistency) as other kinds of projection, e.g. projection from epithets or non-restrictive modifiers.

The full paper contains relevant examples showing the full uniformity of the different kinds of projection.

References

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