A note on presupposition accommodation*

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Abstract

The proviso problem arises for theories of presupposition whose projection component fails to derive certain presuppositions that are contributed by their constituent sentences. Satisfaction theories respond to the difficulty by tying the emergence of the proviso problem to presupposition accommodation. Consequently, when the context entails the projected presupposition and no accommodation is required, satisfaction theories predict that proviso inferences will be absent. Evidence for this predicted connection between the proviso problem and the need for accommodation is provided by Heim (1992, 2006). We argue that there is a confound in Heim’s argument, and that once the confound is removed, the proviso problem arises even when the context does entail the sentence’s projected presupposition. If we are right, the proviso problem cannot be tied to presupposition accommodation as a process of context repair.

1 Background: Context Satisfaction and Context Repair

Several theories of presupposition projection (e.g., Karttunen (1974), Stalnaker (1974), Heim (1983), Beaver (2001), Schlenker (2007, 2008, 2009)) use the following condition on the common ground to derive both the use conditions on presupposition and its projection properties:

(1) **Context Satisfaction:** If sentence $\phi$ presupposes proposition $p$, then $\phi$ may be used in context $c$ only if $c$ entails $p$

Following Geurts (1996), we will refer to such theories as ‘satisfaction theories of presupposition.’ As was noted by Karttunen (1974) and Stalnaker (1974), (1) is not

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\[1\]Some other theories of projection, namely, various versions of trivalent systems, also incorporate the Context Satisfaction condition, but do so not through their projection component (which makes no reference to the context), but as an additional conversational principle (see e.g., Stalnaker (1978), Soames (1989), Beaver and Krahmer (2001), von Fintel (2008), Fox (2008) for discussion). Similar remarks apply to the theory of Chemla (2009). It is a choice point for such systems what the right assertability condition should be. As such, we do not include them as instances of satisfaction theories.
inviolable: it can sometimes be violated without disrupting the conversation. For example, the speaker can utter *Sorry I’m late, I had to take my cat to the vet* even in a context that does not already entail that the speaker has a (unique) cat. In such cases, the hearer can choose to add the relevant information and update the context accordingly. This process of context repair, assumed in one way or another by all satisfaction theories, has been called accommodation by Lewis (1979).

Using (1), satisfaction theories predict that a sentence \( \phi \) with a presupposition \( p_0 \) will sometimes project a presupposition \( p \) that is different from \( p_0 \) when \( \phi \) is part of a larger sentence. In particular, if \( \psi, \phi \) and \( \psi \) and \( \phi \) are predicted to presuppose \( \psi \rightarrow p_0 \) rather than \( p_0 \), and \( x \) hopes that \( \phi \) is predicted to presuppose \( x \) believes that \( p_0 \) rather than \( p_0 \). Evidence supporting this prediction comes from examples such as the following:

\[
\begin{align*}
(2) \quad & \text{a. } \text{If John is a scuba diver, he will bring his wetsuit} \\
& \text{b. } \text{It is likely that John is a scuba diver and that he will bring his wetsuit} \\
& \text{c. } \text{This lunatic Bill hopes that the moon will put on its wetsuit}
\end{align*}
\]

The consequent of (2-a) presupposes that John has a wetsuit, but the conditional as a whole only presupposes that if John is a scuba diver, he has a wetsuit. The same conditional presupposition is also the presupposition of (2-b). And (2-c) only presupposes that John believes that the moon has a wetsuit. Sometimes, however, environments very similar to those in (2) seem to allow the original presupposition \( p_0 \) to project:

\[
\begin{align*}
(3) \quad & \text{a. } \text{If John wants to impress us, he will bring his wetsuit} \\
& \text{b. } \text{It is likely that John will want to impress us and that he will bring his wetsuit} \\
& \text{c. } \text{Bill hopes that John will put on his wetsuit}
\end{align*}
\]

Sentences like those in (3) pose a challenge, dubbed the ‘proviso problem’ by Geurts (1996), for satisfaction theories: the sentences in (3) all seem to suggest that John actually has a wetsuit, but the projection mechanism, based on (1), that is used by satisfaction theories only predicts the modified presuppositions that we saw in (2).

In the face of the proviso problem, satisfaction theories have offered accounts that tie the availability of \( p_0 \) to accommodation. In its simplest form, accommodation would seem to involve the minimal contextual repair required to satisfy (1) by replacing \( c \) with \( c' = c \cap p \). However, one can imagine satisfying (1) by accommodating something stronger than \( p \): any \( c' \subseteq c \cap p \) would satisfy (1), and, in principle at least, different choices can be made (see Thomason (1990) and Beaver (1999), among others, for discussion). The possibility of non-minimal repair suggests a natural view of proviso inferences as instances of accommodation in which \( c \) is replaced with a \( c' \subseteq c \cap p \) that also satisfies \( c' \subseteq p_0 \). This view has been assumed by Heim (1982, 1992, 2006), Beaver (1999, 2001), von Fintel (2008), and others.\(^2\)

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\(^2\)See Beaver and Zeevat (2007) and von Fintel (2008) and references therein for discussion.

\(^3\)As pointed out by Geurts (1996, 1999), accounting for the observed distribution of proviso inferences is a considerable challenge for satisfaction theories. See Beaver (2001, 2006), Heim (2006), Pérez-Carballo (2007, 2009), van Rooij (2007), Singh (2007, 2009), von Fintel (2008), Schlenker (2010) for attempts to meet this challenge. Our focus in this paper will be the question of whether proviso inferences should be tied.
In addition to being a natural choice for satisfaction theories, the treatment of proviso inferences as instances of accommodation also seems to be supported by empirical evidence: by tying the emergence of \( p_0 \) to violations of (1), satisfaction theories predict that if the context already entails \( p \), accommodating \( p_0 \) should be impossible, a prediction that seems to be borne out by texts like (4), modified from Heim (1992, 2006).

(4)  
\begin{itemize}
  \item a. If Lyle flies to Toronto, he has a sister. Moreover, if he flies to Toronto, his sister will pick him up from the airport
  \item b. Bernie believes that Lyle has been cheating on his wife. (Since he likes him,) he hopes that Lyle will stop
\end{itemize}

We do not take away from (4-a) that Lyle has a sister, and we do not take away from (4-b) that Lyle has in fact been cheating on his wife. This is entirely as expected from the perspective of satisfaction theories. Since the first sentence in each text serves to satisfy the presupposition of the second, there is no threat of (1) being violated, hence no accommodation. Thus, there is nothing to license the inferences to \( p_0 \) that were attested in out of the blue contexts like in (3).

While the texts in (4) seem to support the view of proviso inferences as cases of accommodation, Geurts (1996, pp. 286–287) provides sentences like the following (his (43b)) that seem to show that \( p_0 \) can be available even when \( p \) is a tautology (and so by necessity (1) is satisfied):

(5)  
If all the boys left at the same time, then the janitor will not have noticed that Fred left

The goal of this squib is to address the apparent conflict between (4) and (5). In section 2 we will argue that there is a confound in the satisfaction approach’s argument from (4): in each of the two texts in (4), the first sentence gives rise to an ignorance inference that prevents accommodation of \( p_0 \) independently of whether (1) is satisfied. In section 3 we will try to show that once the confound is removed, Geurts’s claim can be generalized to variants of the texts in (4) with arbitrary values for \( p \). We will conclude that proviso inferences should not be treated as instances of accommodation, and in particular that the proviso problem arises even when (1) is not violated.

## 2 Ignorance Inferences Block Accommodation

Consider the oddness of the following texts:

(6)  
\begin{itemize}
  \item a. # Lyle might have a sister. His sister is from Montréal.
  \item b. # Lyle has two or more hamsters. His two hamsters are big.
\end{itemize}

to accommodation through mismatches with (1). We will not attempt to weigh in on the question of whether the proviso problem can be properly treated within a satisfaction theory or whether an approach in which \( p_0 \) can be directly generated is called for (as in the theories of Gazdar (1979), van der Sandt (1992), and Geurts (1999)).
A plausible account of the oddness of these texts, following Gazdar (1979), van der Sandt (1988), Geurts (1999), and most directly Heim (2006), is that the first sentence in each introduces ignorance inferences which would be in conflict with accommodation of the presupposition of the second sentence. For example, (6-a) implies that the speaker is ignorant about whether or not Lyle has a sister. This prevents later accommodation of Lyle having a sister, since the result would lead to an inconsistent context. Similar remarks apply to (6-b).

Let us suppose, then, that there is a principle that prevents accommodation of proposition \( q \) if doing so would contradict an earlier ignorance inference that the speaker is ignorant about whether \( q \).

\[(7) \quad \text{Ignorance Inferences Block Accommodation: Accommodation of } q \text{ is disallowed if there is an earlier ignorance inference that the speaker is ignorant about } q.\]

As discussed by Heim (2006), something like (7) seems relevant to whether proviso inferences are available in examples like (2) and (3) above. In particular, Heim suggests a strengthening process for the modified presuppositions predicted by satisfaction theories, taking reasoning about the speaker’s epistemic state into account. Consider again a sentence of the form \( \psi, \phi \), where \( \phi \) presupposes \( p_0 \), such as (2-a) or (3-a). As mentioned, satisfaction theories predict the conditional presupposition \( \psi \rightarrow p_0 \) for such sentences. Simplifying considerably, we can now think of this conditional presupposition as being available only in a strengthened form, in which \( \psi \rightarrow p_0 \) is conjoined with an ignorance inference that the speaker does not know whether \( p_0 \). Depending on what can be assumed about the speaker’s epistemic state, this strengthened meaning may be more plausible than the proviso inference \( p_0 \), as in (2-a), or it can be less plausible, as in (3-a). Heim follows Beaver (1999, 2001) in suggesting that in each case the more plausible proposition is accommodated.

Returning to (4), (7) provides an alternative account for the lack of inference to Lyle having a sister in (4-a), and to Lyle actually having cheated on his wife in (4-b). Under certain theories of implicature (e.g., Gazdar, 1979), the first sentences in each of the examples in (4) give rise to ignorance inferences about these propositions, hence blocking any later attempt to accommodate them. Some evidence in support of Gazdar’s predicted ignorance inferences here comes from the fact that the following texts, like the ones in (6), are also odd:

\[(8) \quad \text{a. } \# \text{ If Lyle flies to Toronto, he has a sister. His sister is from Montréal.} \]
\[\text{b. } \# \text{ Bernie believes Lyle has been cheating on his wife. Lyle’s mistress is from Montréal.}\]

\[\text{4}\]See Gazdar (1979), van der Sandt (1988), Geurts (1999), Heim (2006) for more discussion, and possible variations and generalizations of this statement.

\[\text{5}\]This process follows lines familiar from the domain of Scalar Implicature. See in particular Fox (2007).

\[\text{6}\]See also Pérez Carballo (2007).

\[\text{7}\]That is, they give rise to the inference that the speaker is ignorant about whether Lyle has a sister, in (4-a), and that the speaker is ignorant about whether Lyle has exactly two hamsters, in (4-b). There are additional ignorance inferences and scalar implicatures here, which are irrelevant to the current discussion.
If the oddness of (8) (like the oddness of (6)) is due to the principle in (7), then the fact that we don’t find accommodation of $p_0$ in (4) is no longer an argument in favor of the satisfaction theory’s prediction that $p_0$ should not emerge when (1) is satisfied. This is because (7) prevents accommodation of $p_0$. For example, since the first sentence of (4-a), *If Lyle flies to Toronto he has a sister*, gives rise to an ignorance inference about Lyle having a sister, (7) prevents accommodation of this proposition in response to the second sentence of (4-a), *If Lyle flies to Toronto his sister will pick him up from the airport.*

3 Controlling for ignorance inferences

To test the satisfaction theory’s prediction, then, we need a context that satisfies the presuppositions of (3) without generating ignorance inferences that would prevent accommodation of $p_0$ as we suggest may have happened in (4). The texts in (9) seem to satisfy these requirements. In both cases, assume that Lyle works for Company X.

(9) a. A company report has shown that every man who works for Company X and flew to a major city over the past month has a sister. **Moreover,** (since his family is rumored to be quite close, I expect that) *if Lyle flew to Toronto over the past month, his sister picked him up from the airport.*

b. Bernie believes that every man who works for Company X has a mistress, though in fact only half of them do. (Since he likes Lyle quite a lot), *he hopes Lyle will stop cheating on his wife.*

What we have done is changed the way the context satisfies the presupposition of the boldfaced sentences. By using a universal quantifier in the context setting sentences, we are making a general statement about the men who work for Company X, rather than a statement about Lyle. This move allows us to avoid generating any ignorance inferences about Lyle that might conflict with the proposition that Lyle has a sister (in (9-a)), and with the proposition that Lyle has in fact been cheating on his wife (in (9-b)). Note, for example, that unlike the sentences in (8), the following sentences are felicitous (again, assume that Lyle works for Company X):

(10) a. Every man who works for Company X and flew to a major city over the past month has a sister. Lyle’s sister is from Montréal.

b. Bernie believes that every man who works for Company X has been cheating on his wife. Lyle’s mistress is from Montréal.

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8Context Satisfaction can still be met without contradicting the earlier ignorance inference, say, by accommodating $p$.

9In the texts that follow, we will write the target sentences in boldface, to distinguish them from the context setting sentences. We place optional material in brackets, in case it helps with naturalness. All judgments discussed below are our own.

10The sentences in (9) are biased against the speaker’s ignorance regarding Lyle’s family situation. As pointed out to us independently by Danny Fox and by an anonymous S&P reviewer, weakening this bias reduces the availability of the intended proviso reading. We note that this is in line with the observation and proposal of Heim (2006), mentioned in section 2 above, regarding the role of ignorance inferences in determining the availability of proviso inferences, based on examples such as those in (2) and (3).
Since the contexts in (9) do not give rise to the relevant ignorance inferences, the principle in (7) is no longer operative. This allows us to test the prediction of the satisfaction theories about proviso inferences being conditioned on a violation of (1), without the confound involved in the examples in (4). If the satisfaction theories were correct, then, just as in (4), we would expect there to be no basis for inferring from (9-a) that Lyle has a sister, and from (9-b) that Lyle has in fact been cheating on his wife. However, these inferences seem to us to follow quite naturally.

It is worth noting that the implication that Lyle has a sister (in (9-a)) and the implication that Lyle has been cheating (in (9-b)) pattern with presuppositions according to a variety of familiar tests. For example, the accommodated propositions are entirely felicitous in the *Hey Wait a Minute!* test for presuppositions (e.g., Shanon (1976), von Fintel (2004)): (9-a) can be felicitously followed by *Hey, wait a minute! I didn’t know that Lyle has a sister!,* and (9-b) can be felicitously followed by *Hey, wait a minute! I didn’t know that Lyle has been cheating on his wife!* Similarly, the referent introduced by the implication can be referred back to in subsequent discourse (cf. van der Sandt (1992) and Geurts (1996)): (9-a) can be followed by *Do you know his sister?*, and (9-b) can be followed by *Have you seen his mistress?* Finally, the implications survive further embedding under various operators:

(11) a. A company report has shown that every man who works for Company X and flew to a major city over the past month has a sister. (Since he’s rumored to come from a messed up family,) I doubt that if Lyle flew to Toronto over the past month, his sister picked him up from the airport.

b. Bernie believes that every man who works for Company X has a mistress, though in fact only half of them do. Even though he’s still jealous that Lyle got the promotion over him, he probably doesn’t wish anyone’s family to fall apart. Do you think he hopes that Lyle will stop cheating on his wife?

4 Concluding Remark

Satisfaction theories condition the emergence of the original \( p_0 \), rather than \( p \), on a violation of the principle of Context Satisfaction in (1) by \( p \). If our data above are correct, \( p_0 \) can be available even when \( p \) satisfies (1). The availability of \( p_0 \), while independent of (1), is still sensitive to contextual factors, and in particular to reasoning about the speaker’s epistemic state.

References


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11 Under this diagnostic, *Hey wait a minute! I didn’t know that p!* should be felicitous only if \( p \) is presuppositional information.
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