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. Mismatch-based 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, mismatch-based satisfaction theories predict that the relevant inferences will be absent. Evidence for this predicted connection between the proviso problem and the need for accommodation is provided by Heim (1992, 2006). Against this conclusion, Geurts (1996) has provided evidence that the proviso problem arises even when the context does entail the sentence's projected presupposition. We will argue that there are confounds in both arguments. The goal of our note is to identify the relevant confounds and to characterize the data that can overcome them. Our attempts to construct examples that control for the confounds and obtain the crucial judgments will prove unsuccessful, leaving the debate unsettled and raising new challenges to constructing the right kinds of data.

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

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condition on the common ground to derive both the use conditions on presupposition and its projection properties:

(1) **Context Satisfaction:** If sentence ϕ presupposes proposition p, then ϕ 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."[1] As was noted by Karttunen (1974) and Stalnaker (1974), (1) can sometimes appear to 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, called *accommodation* by Lewis (1979), has been assumed in one way or another by all satisfaction theories.[2]

Using (1), satisfaction theories predict that a sentence that has a constituent ϕ with a presupposition p_0 will sometimes have a presupposition p that is different from p_0. In particular, if ψ, ϕ and ψ *and* ϕ are predicted to presuppose $\psi \rightarrow p_0$ rather than p_0, and x *hopes that* ϕ is predicted to presuppose x *believes that* p_0 rather than p_0.[3] Evidence supporting this prediction comes from examples such as the following:[4]

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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 & Krahmer 2001, von Fintel 2008 and Fox 2008 for discussion). Similar remarks apply to 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.

2 See Beaver & Zeevat 2007, von Fintel 2008 and references therein for discussion.

3 See Heim 1983, 1992 and Geurts 1996 for detailed discussion of how this projection comes about as well as for the dependence of the predictions on particular analyses of conditionals and attitude verbs. To illustrate, the case of conjunctions of the form ψ *and* ϕ is handled through incremental update of the context. The context c for the entire conjunction is first updated with the first conjunct ψ, and the result of this update is then further updated with the second conjunct ϕ. According to (1), the presupposition p_0 of ϕ translates into the following requirement on the context c: after updating c with ψ, the result should satisfy p_0. In other words, any context where ψ holds must also satisfy p_0. This amounts to satisfying the material implication $\psi \rightarrow p_0$.

4 The source — or *trigger* — of the presupposition in the atomic ϕ in the examples in (2) is in the possessive *his/its wetsuit*. We will use additional triggers below, including factive and aspectual verbs. Following much of the literature, we will separate the triggering problem from the projection problem, focusing exclusively on the latter in this note.

(2)   a.   If John is a scuba diver, he will bring his wetsuit.

     b.   It is likely that John is a scuba diver and that he will bring his wetsuit.

     c.   This lunatic Bill hopes that the moon will put on its wetsuit.

The consequent of (2a) 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 is also the presupposition of (2b). And (2c) only presupposes that Bill 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:

(3)   a.   If John wants to impress us, he will bring his wetsuit.

     b.   It is likely that John will want to impress us and that he will bring his wetsuit.

     c.   Bill hopes that John will put on his wetsuit.

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 p_0 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.[5]

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[5] As pointed out by Geurts (1996, 1999), accounting for the observed distribution of p_0 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 2011 and Lassiter 2012 for attempts to meet this challenge. Our focus in this paper will be the question of whether p_0 inferences should be tied to accommodation through mismatches with (1) and not the mechanism responsible for generating p_0.

One prominent approach within satisfaction theories, which we will refer to as the *mismatch-based approach*, has offered accounts that tie the availability of p_0 to violations of (1) (that is, to cases in which the context does not already entail p). We will distinguish the mismatch-based approach from what might be called the *speaker-based approach*, where accommodation is divorced from context repair.[6] The current note focuses entirely on the mismatch-based approach.

While conditioning p_0 inferences on violations of (1), as in the mismatch-based approach, is not the only possible direction for satisfaction theories (and it has not, to our knowledge, been argued to derive from more basic principles), it seems a rather natural choice. As is well known, presuppositions differ from other inferences with respect to a variety of diagnostics. In particular, they survive embedding, and they can be challenged with the *Hey, wait a minute!* test (*HWAMT*; see Shanon 1976 and von Fintel 2004). For example, (4) presupposes (5a), entails (5b), and suggests (5c). Only (5a), however, survives the embedding in (6) or can be challenged using HWAMT (as seen in (7)).[7] Capturing this distinction is challenging for a theory that allows any (plausible) inference to be accommodated. Restricting accommodation to cases where (1) is not satisfied avoids this problem.[8]

(4)   John's sister is a concert pianist.

(5)   a.   John has a sister.

b.   She is a pianist.

c.   She is talented.

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6 The speaker-based approach, following Stalnaker (1974, 1978, 2002) and developed further by Beaver (2001), Simons (2003) and Beaver & Zeevat (2007), sees accommodation as the hearer's attempt to figure out what the speaker's presuppositions are. Under this view, when presented with a sentence that projects p, the hearer reasons about what the speaker might be presupposing (in principle, this question arises whether (1) is satisfied or not). To address the proviso problem, the hearer might infer that the speaker is presupposing not just p, but also p_0, and moreover expects the hearer to figure this out and add p_0 to c.

7 It should be noted, though, that no diagnostic for presuppositions is airtight. See Simons et al. 2010 for a discussion of projection across a range of phenomena.

8 A different approach to the proviso problem that avoids the proliferation of unattested accommodations is scoping, suggested by Heim (1992), in which p_0 is obtained as a kind of *de re* reading. See Geurts 1999 and Schlenker 2011 for critical discussion.

(6)   It is likely that John's sister is a concert pianist.

(7)   Hey, wait a minute! I didn't know that

    a.   ...John has a sister.

    b. #...she is a pianist.

    c. #...she is talented.

In addition to being a natural choice for satisfaction theories, conditioning p_0 inferences on violations of (1) also seems to be supported by empirical evidence: by making this choice, mismatch-based 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 (8), modified from Heim 1992, 2006.

(8)   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.

    b.   If Lyle flies to Toronto, he has a sister. Moreover, it is likely that he will fly to Toronto and that his sister will pick him up from the airport.

    c.   Bernie believes that Lyle has been cheating on his wife. (Since he likes him,) he hopes that Lyle will stop.

We do not take away from (8a) or from (8b) that Lyle has a sister, and we do not take away from (8c) that Lyle has been cheating on his wife. This is entirely as expected from the perspective of mismatch-based 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 (8) seem to support the view of p_0 inferences as cases of context repair, Geurts (1996: 286–287) provides sentences like the following (his (43a,b)) that seem to show that p_0 can be available even when p is a tautology (and so by necessity (1) is satisfied). Although (1) is satisfied, (9a) can still be read as implying that Fred failed the exam, while (9b) can be read as implying that Fred left.

(9)   a.   If all the boys failed the exam, then it wasn't only Fred who did so.

    b.   If all the boys left together, then the janitor will not have noticed that Fred left.

The goal of this note is to examine more closely the apparent conflict between (8) and (9). In section 2.1 we will argue that there is a confound in the mismatch-based approach's argument from (8): in each of the texts in (8), the first sentence gives rise to an ignorance inference that prevents accommodation of p_0, independently of whether (1) is satisfied. In section 2.2 we will follow van Rooij (2007) in suggesting that there is a confound in Geurts's argument from (9): in each of the examples, the question under discussion already presupposes p_0, independently of anything else. Arguing for or against the mismatch-based approach based on the availability of p_0 in contexts in which (1) is satisfied thus requires controlling for both confounds. We will attempt to do so in section 3 but ultimately fail, leaving the usefulness of the relevant contexts for deciding the status of the mismatch-based approach unsettled.

2   Confounds

2.1   Ignorance inferences block accommodation

Consider the oddness of the following texts:

(10)   a. #Lyle might have a sister. His sister is from Montréal.

    b. #Lyle has two or more hamsters. His two hamsters are big.

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, the first sentence in (10a) implies that the speaker is ignorant about whether or not Lyle has a sister. This prevents later accommodation of Lyle having a sister, presumably since the accommodation suggests that the speaker believes this proposition, a suggestion that conflicts with the ignorance inference. Similar remarks apply to (10b).

Let us suppose, then, that there is a principle that prevents accommodation of proposition q if doing so would contradict an earlier inference that

the speaker is ignorant about whether q.[9]

(11) **Ignorance Inferences Block Accommodation:** Accommodating q is disallowed if there is an earlier inference that the speaker is ignorant about whether q.

This principle provides an alternative account for the lack of inference to Lyle having a sister in (8a) and (8b) and to Lyle actually having cheated on his wife in (8c). Under certain theories of implicature (e.g., Gazdar 1979), the first sentences in each of the examples in (8) give rise to ignorance inferences about these propositions.[10] These ignorance inferences block any later attempt to accommodate the relevant propositions. Some evidence in support of Gazdar's predicted ignorance inferences here comes from the fact that the following texts, like the ones in (10), are also odd:

(12) a. #If Lyle flies to Toronto, he has a sister. His sister is from Montréal.

b. #Bernie believes Lyle has been cheating on his wife. Lyle's mistress is from Montréal.

If the oddness of (12) (like the oddness of (10)) is due to the principle in (11), then we have an explanation for the absence of p_0 accommodation in (8) that does not depend on context satisfaction. For example, since the first sentence of (8a), *If Lyle flies to Toronto he has a sister*, gives rise to an ignorance inference about Lyle having a sister, (11) prevents accommodation of this proposition in response to the second sentence of (8a), *If Lyle flies*

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9 As discussed by Heim (2006), something like (11) seems relevant to whether p_0 inferences are available in examples like (2) and (3) above. Consider again a sentence of the form *if ψ, ϕ*, where ϕ presupposes p_0, such as (2a) or (3a). As mentioned, satisfaction theories predict the conditional presupposition $\psi \to p_0$ for such sentences. Simplifying considerably, Heim suggests that in such cases the hearer has to decide whether to accommodate $\psi \to p_0$ or p_0, and she follows Beaver (1999, 2001) in suggesting that the decision is governed by plausibility considerations. Crucially, what the hearer considers is the plausibility of the speaker's beliefs about these propositions, where the beliefs are exhastified (in order to break entailment, which would make plausibility comparisions trivial). That is, the hearer considers the plausibility of (i) $B(p_0)$, and (ii) $B(\psi \to p_0) \wedge \neg B(p_0) \wedge \neg B(\neg p_0)$; if (i) is more plausible, the hearer accommodates p_0, and if (ii) is more plausible, the hearer accommodates $\psi \to p_0$.

10 That is, they give rise to the inferences that the speaker is ignorant about whether Lyle has a sister in (8a) and (8b) and that the speaker is ignorant about whether Lyle has been cheating on his wife in (8c). There are additional ignorance inferences and scalar implicatures here, which are irrelevant to the current discussion.

to Toronto his sister will pick him up from the airport.[11] Since the examples in (8) give rise to ignorance inferences that block the accommodation of p_0, we cannot use these examples to argue that mismatch is relevant for p_0 accommodation.

2.2 Reconstructing questions under discussion

Consider again Geurts's examples in (9), repeated here as (13):

(13) a. If all the boys failed the exam, then it wasn't only Fred who did so.

b. If all the boys left together, then the janitor will not have noticed that Fred left.

Recall that the reported judgments are that (13a) can be read as implying that Fred failed and that (13b) can be read as implying that Fred left. In other words, both allow p_0 inferences even though p is trivially satisfied by any context. We share these judgments, but, building on van Rooij (2007: 293, fn. 8), we think they are compatible with mismatch-based theories. Following van Rooij, we suggest that a crucial factor in these examples is the question under discussion (QUD; see Roberts 1996/2012, Büring 2003 and Simons et al. 2010). Both examples are provided in isolation, without the assistance of a surrounding context, leaving the task of reconstructing such a context, and in particular the reconstruction of the appropriate QUD, to the listener.[12] In both cases the QUD, presumably reconstructed from the consequent of the conditional in each case, already happens to presuppose p_0. This, in turn, prevents us from isolating projection within the given examples. (13a) is most naturally interpreted as an answer to the question whether Fred was the only one who failed the exam, a question that presupposes p_0 (in this case, that Fred failed the exam). Similarly, (13b) is most naturally interpreted as an answer to the question whether the janitor has noticed that Fred left. Again, this question presupposes p_0 (in this case, that Fred left). Since both sentences in (13) allow us to reconstruct natural QUDs that already presuppose p_0, we cannot rely on these examples to argue that mismatch is irrelevant for p_0 accommodation.

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

12 See Crain & Steedman 1985 and Guasti et al. 2005 for evidence that without explicit provision of relevant features of the context listeners will typically guess the values of the relevant features, thereby potentially obscuring the outputs of the underlying mechanisms of interest.

3 Controlling for the confounds

To test whether p_0 can emerge even when (1) is satisfied, we need to overcome (at least) the above confounds. To accomplish this, we can take sentences such as those in (8) and alter the context-setting sentences so as to avoid generating ignorance inferences about p_0 (without introducing a QUD presupposition of p_0 along the way). We can also start with sentences such as (13) and construct an explicit context that does not already presuppose p_0 (without introducing an ignorance inference regarding p_0 along the way). We will attempt to do both, starting with the former:

(14) Our local manager has discovered that ten employees have a drinking problem, and he wishes to get rid of them. He doesn't have the courage to fire them himself, but next week he will send five of them — and nobody else — to the Montréal office, which is known to be very strict, and where employees who drink and are caught are likely to be fired.

    We are talking to a colleague, Sue, about Lyle, the new guy, and we are debating Lyle's chances of staying long-term with the firm. We have no idea whether Sue knows whether Lyle has a drinking problem. Sue says:

    a. Do you think that if Lyle gets sent to Montréal they'll realize he has a drinking problem?

    b. How likely do you think it is that Lyle will be sent to Montréal and they'll realize he has a drinking problem?

    c. Lyle is careful. If he gets sent to Montréal, he'll probably stop drinking.

    d. Lyle is such an annoying person to work with. I hope that he gets sent to Montréal and they realize he has a drinking problem.

    e. Lyle is such a quiet guy. Chances are that if he gets sent to Montréal they won't realize he has a drinking problem.

Note first that we have changed the way the context satisfies the presupposition of the target sentences. Instead of a statement about Lyle, such as *If Lyle is sent to Montréal, he has a drinking problem*, which generates the problematic ignorance inference about p_0 (in this case, that Lyle has a drinking problem), we now have a universal statement that every employee who is sent to Montréal has a drinking problem, which does not give rise to

this ignorance inference. For example, and contrasting with the sentences in (12), the following sentences are felicitous:

(15) a. Every employee who gets sent to Montréal has a drinking problem. If Lyle gets sent to Montréal he'll fit right in: his drinking problem is particularly bad.

  b. Mary believes that every employee who gets sent to Montréal has a drinking problem. If Lyle gets sent to Montréal he'll fit right in: his drinking problem is particularly bad.

Since the context in (14) does not give rise to an ignorance inference about p_0, the principle in (11) is no longer operative. Similarly, the context—described in detail to minimize the risk of context reconstruction by the listener—does not already presuppose p_0. To further discourage the listener from reconstructing a problematic QUD we have provided a QUD—whether Lyle will stay long-term with the firm—that does not presuppose p_0, although, as a reviewer notes, speakers often answer a question that is different from the one provided. Finally, we have stated explicitly that we are hearing the target sentences from Sue, who for all we know may or may not know whether Lyle has a drinking problem.[13]

If a scenario such as the one we just described is reasonable, it controls simultaneously for ignorance inferences and for QUD presuppositions. It should thus allow us to test the prediction of mismatch-based satisfaction theories about p_0 inferences being conditioned on a violation of (1): if the mismatch-based satisfaction theories were correct, then, just as in (8), we would expect there to be no basis for inferring from any of the sentences in (14) that Lyle has a drinking problem.

A manipulation similar to the one we used to construct (14) should allow us to construct a variant of (13) where the QUD does not already presuppose p_0 (and without introducing ignorance inferences along the way). Here is an attempt:

(16) When exactly one boy shouts, the headmaster can identify the boy who shouted and discipline him. When more than one boy shouts, it

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13 Notice also that the suggestion of Lyle being sent to Montréal in the target sentences does not seem to bias the hearer toward p_0. For example, we do not conclude from *Do you think that if Lyle gets sent to Montréal he will be upset?* or from *Chances are that if Lyle gets sent to Montréal, nobody here will notice he's gone*, in the context of (14), that Lyle has a drinking problem. We thank Danny Fox (p.c.) for this point.

becomes increasingly confusing, and sometimes few or none of the shouters get caught. There has been shouting earlier today.

We are talking to Mary, one of the teachers, and we are debating the chances that Fred, a boy who is already in trouble because of his low grades, will be expelled. We have no idea whether Mary knows whether Fred was shouting. Mary says:

a. If all the boys shouted, then it wasn't only Fred who did so.

b. If all the boys shouted, then the headmaster will not have noticed that Fred shouted.

As in (14), the context in (16) — again, described in detail to prevent context reconstruction — does not already presuppose p_0 (in this case, that Fred was shouting). As in (16), we have provided a QUD — whether Fred will be expelled — that does not presuppose p_0; again, though, this does not guarantee that the speaker will respond to the provided question. And we have stated explicitly that we are hearing the target sentences from Mary, who for all we know may or may not know whether Fred was shouting. Like (14), (16) too should allow us to test for the prediction of the mismatch-based satisfaction approach regarding the unavailability of p_0.[14]

Unfortunately, we have not been able to obtain clean judgments regarding the sentences in either (14) or (16). Subjects found these contexts and similar ones that we have constructed hard to process and keep in mind. Our attempts to elicit judgments from about 30 English-speaking undergraduates resulted in no pattern that we could interpret, and several readers commented that they found themselves ignoring parts of the given context while attempting to judge the sentences.

In this section we have tried to control for the two confounds identified in section 2 — ignorance inferences and the question under discussion — in hope of obtaining examples that would allow us to test the predictions of the mismatch-based approach. Controlling for ignorance inferences was straightforward in principle but introduced a considerable level of complexity to the examples. Controlling for the question under discussion made the contexts even more complex since we had to provide enough detail to prevent the listener from reconstructing crucial parts of the context on their own. The resulting complexity proved too high to allow for reliable judgments.

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14 The mismatch-based approach further predicts that by changing *all* to *many of* in the examples should make p_0 available, since p (in this case, that if many of the boys shouted, then Fred shouted) is no longer satisfied by the context.

4   Concluding remarks

Mismatch-based 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. This was not just a natural choice for satisfaction theories, allowing them to avoid a proliferation of unattested accommodations, but also made correct predictions in examples such as those in (8). However, Geurts's example in (9) remained puzzling. We argued that the absence of p_0 accommodation in (8) could not on its own argue for the mismatch-based approach: the context in those sentences gives rise to ignorance inferences that prevent the accommodation of p_0, independently of context satisfaction. On the other hand, Geurts's examples also involved a confound due to the presuppositions of the question under discussion. We tried to construct examples to control for both confounds, but the contexts involved were complex, and we could not obtain clear judgments.

We are not sure whether our failure to obtain useful judgments from the modified examples is indicative of a more general incompatibility between controlling for the two confounds and keeping the examples simple enough to allow for reliable judgments. We hope that this is not the case and that it can still be possible to construct variants of our examples that impose more reasonable cognitive demands on the listener, perhaps by replacing some of the text with pictures or by relying on world knowledge instead of artificial context. Be that as it may, we must conclude that, at present, judgments about the availability of p_0 in contexts that satisfy (1) do not help settle the status of the mismatch-based approach.

References

Beaver, David. 1999. Presupposition accommodation: A plea for common sense. In Lawrence S. Moss, Jonathan Ginzburg & Maarten de Rijke (eds.), *Logic, language, and computation*, vol. 2 (CSLI Lecture Notes 96), 21–44. Stanford, CA: Center for the Study of Language & Information (CSLI), Stanford University.

Beaver, David. 2001. *Presupposition and assertion in dynamic semantics* (Studies in Logic, Language and Information 16). Stanford, CA: Center for the Study of Language & Information (CSLI), Stanford University.

Beaver, David. 2006. The proviso problem: Comments on von Fintel. Invited commentary at the Ohio State University Accommodation Workshop.

Columbus, OH. October 14, 2006. http://pragmatics.osu.edu/links/resources/osu-accom.pdf.

Beaver, David & Emiel Krahmer. 2001. A partial account of presupposition projection. *Journal of Logic, Language and Information* 10(2). 147–182. http://dx.doi.org/10.1023/A:1008371413822.

Beaver, David & Henk Zeevat. 2007. Accommodation. In Gillian Ramchand & Charles Reiss (eds.), *The Oxford handbook of linguistic interfaces*, 503–538. Oxford, UK: Oxford University Press. http://dx.doi.org/10.1093/oxfordhb/9780199247455.013.0017.

Büring, Daniel. 2003. On d-trees, beans, and B-accents. *Linguistics and Philosophy* 26(5). 511–545. http://dx.doi.org/10.1023/A:1025887707652.

Chemla, Emmanuel. 2009. Similarity: Towards a unified account of scalar implicatures, free choice permission, and presupposition projection. unpublished ms.

Crain, Stephen & Mark Steedman. 1985. On not being led up the garden path: The use of context by the psychological syntax processor. In David R. Dowty, Lauri Karttunen & Arnold M. Zwicky (eds.), *Natural language parsing*: *Psychological, computational and theoretical perspectives* (Studies in Natural Language Processing), 320–358. Cambridge, UK: Cambridge University Press.

von Fintel, Kai. 2004. Would you believe it? The King of France is back! (Presuppositions and truth-value intuitions). In Marga Reimer & Anne Bezuidenhout (eds.), *Descriptions and beyond*: *An interdisciplinary collection of essays on definite and indefinite descriptions and other related phenomena*, 315–341. Oxford, UK: Oxford University Press.

von Fintel, Kai. 2008. What is presupposition accommodation, again? *Philosophical Perspectives* 22(1). 137–170. http://dx.doi.org/10.1111/j.1520-8583.2008.00144.x.

Fox, Danny. 2008. Two short notes on Schlenker's theory of presupposition projection. *Theoretical Linguistics* 34(3). 237–252. http://dx.doi.org/10.1515/THLI.2008.016.

Gazdar, Gerald. 1979. *Pragmatics*: *Implicature, presupposition, and logical form*. New York, NY: Academic Press.

Geurts, Bart. 1996. Local satisfaction guaranteed: A presupposition theory and its problems. *Linguistics and Philosophy* 19(3). 259–294. http://dx.doi.org/10.1007/BF00628201.

Geurts, Bart. 1999. *Presuppositions and pronouns* (Current Research in the Semantics/Pragmatics Interface 3). Oxford, UK: Elsevier Science.

Guasti, Maria Teresa, Gennaro Chierchia, Stephen Crain, Francesca Foppolo, Andrea Gualmini & Luisa Meroni. 2005. Why children and adults sometimes (but not always) compute implicatures. *Language and Cognitive Processes* 20(5). 667–696. http://dx.doi.org/10.1080/01690960444000250.

Heim, Irene. 1982. *The semantics of definite and indefinite noun phrases.* Amherst, MA: University of Massachusetts at Amherst PhD thesis. http://semanticsarchive.net/Archive/TkoZmYyY/dissertation.pdf.

Heim, Irene. 1983. On the projection problem for presuppositions. *West Coast Conference on Formal Linguistics (WCCFL)* 2. 114–125.

Heim, Irene. 1992. Presupposition projection and the semantics of attitude verbs. *Journal of Semantics* 9(3). 183–221. http://dx.doi.org/10.1093/jos/9.3.183.

Heim, Irene. 2006. On the proviso problem. Presented at the Milan Meeting, Gargnano.

Karttunen, Lauri. 1974. Presupposition and linguistic context. *Theoretical Linguistics* 1(1–3). 181–194. http://dx.doi.org/10.1515/thli.1974.1.1-3.181.

Lassiter, Daniel. 2012. Presuppositions, provisos, and probability. *Semantics and Pragmatics* 5(2). 1–37. http://dx.doi.org/10.3765/sp.5.2.

Lewis, David. 1979. Scorekeeping in a language game. *Journal of Philosophical Logic* 8(1). 339–359. http://dx.doi.org/10.1007/BF00258436.

Pérez Carballo, Alejandro. 2007. A first shot at the proviso problem. MIT. Manuscript.

Pérez Carballo, Alejandro. 2009. Toward a dissolution of the proviso problem. In Paul Égré & Giorgio Magri (eds.), *Presuppositions and implicatures*: *Proceedings of the MIT-Paris Workshop* (MIT Working Papers in Linguistics 60), 169–184. Cambridge, MA: MITWPL.

Roberts, Craige. 1996/2012. Information structure in discourse: Towards an integrated formal theory of pragmatics. *Semantics and Pragmatics* 5(6). 1–69. http://dx.doi.org/10.3765/sp.5.6.

van Rooij, Robert. 2007. Strengthening conditional presuppositions. *Journal of Semantics* 24(3). 289–304. http://dx.doi.org/10.1093/jos/ffm007.

van der Sandt, Rob A. 1988. *Context and presupposition* (Croom Helm Linguistics). London, UK: Croom Helm.

Schlenker, Philippe. 2007. Anti-dynamics: Presupposition projection without dynamic semantics. *Journal of Logic, Language and Information* 16(3). 325–356. http://dx.doi.org/10.1007/s10849-006-9034-x.

Schlenker, Philippe. 2008. Be articulate: A pragmatic theory of presupposition projection. *Theoretical Linguistics* 34(3). 157–212. http://dx.doi.org/10.1515/THLI.2008.013.

Schlenker, Philippe. 2009. Local contexts. *Semantics and Pragmatics* 2(3). 1–78. http://dx.doi.org/10.3765/sp.2.3.

Schlenker, Philippe. 2011. The proviso problem: A note. *Natural Language Semantics* 19(4). 395–422. http://dx.doi.org/10.1007/s11050-011-9072-z.

Shanon, Benny. 1976. On the two kinds of presuppositions in natural language. *Foundations of Language* 14(2). 247–249. http://www.jstor.org/stable/25170057.

Simons, Mandy. 2003. Presupposition and accommodation: Understanding the Stalnakerian picture. *Philosophical Studies* 112(3). 251–278. http://dx.doi.org/10.1023/A:1023004203043.

Simons, Mandy, Judith Tonhauser, David Beaver & Craige Roberts. 2010. What projects and why. *Semantics and Linguistic Theory (SALT) 20*. 309–327. http://elanguage.net/journals/salt/article/view/20.309.

Singh, Raj. 2007. Formal alternatives as a solution to the proviso problem. *Semantics and Linguistic Theory (SALT) 17*. 264–281. http://elanguage.net/journals/index.php/salt/article/view/17.264/1854.

Singh, Raj. 2009. Symmetric and interacting alternatives for implicature and accommodation. *European Summer School in Logic, Language and Information (ESSLLI) 2009 Workshop*.

Soames, Scott. 1989. Presupposition. In Dov M. Gabbay & Franz Guenther (eds.), *Handbook of philosophical logic, vol. IV*: *Topics in the philosophy of language* (Synthese Library: Studies in Epistemology, Logic, Methodology, and Philosophy of Science 167), 553–616. Dordrecht, The Netherlands: D. Reidel Publishing Company. http://dx.doi.org/10.1007/978-94-009-1171-0_9.

Stalnaker, Robert. 1974. Pragmatic presuppositions. In Milton K. Munitz & Peter K. Unger (eds.), *Semantics and philosophy*, 197–213. New York: New York University Press.

Stalnaker, Robert. 1978. Assertion. In Peter Cole (ed.), *Pragmatics* (Syntax and Semantics 9), 315–332. New York, NY: Academic Press.

Stalnaker, Robert. 2002. Common ground. *Linguistics and Philosophy* 25(5–6). 701–721. http://dx.doi.org/10.1023/A:1020867916902.

Thomason, Richmond H. 1990. Accommodation, meaning, and implicature: Interdisciplinary foundations for pragmatics. In Philip R. Cohen, Jerry Morgan & Martha E. Pollack (eds.), *Intentions in communication* (System

Development Foundation Benchmark Series), 325–363. Cambridge, MA: The MIT Press.

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