

As brief as possible (but no briefer) *

David I. Beaver
Departments of Linguistics and Philosophy
The University of Texas at Austin

Draft, June 13.

This paper is to appear in *Theoretical Linguistics* as a commentary on P. Schlenker, “Be Articulate: A Pragmatic Theory of Presupposition.” Schlenker’s article is available at:
http://semanticsarchive.net/Archive/WQ2MTYxM/Be_Articulate.html

1. Introduction

For years researchers struggle to explain an impossible muddle of data, and then BAM! some genius comes and publishes an article in *Theoretical Linguistics* that turns everything on its head. In this case, the bugbear is the projection problem for presuppositions. The mind-blowing solution succeeds in explaining presuppositional inferences and felicity judgments without the abstruse non-classical logics or transformations of logical forms that others tried previously, but instead with standard classical logic. Most importantly, for this is what makes the innovative everything-on-its-head proposal special, it solves the problem not in terms of projection, but in terms of local satisfaction.

The paper to which I refer is, of course, Lauri Karttunen’s (1974) *Presupposition and Linguistic Context*, published in the very first volume of this journal. Philippe Schlenker’s (henceforth: PS) *Be Articulate: A Pragmatic Theory of Presupposition* is an important but flawed postscript to Karttunen’s paper. The current work is a postscript to PS’s postscript. After a little warm-up exercise to help get into a suitably critical frame of mind, I will put PS’s contribution in context, and then point to some failings and peculiarities.

2. Warm-up exercise

Surprise quiz! What do the following three examples presuppose?

* My thanks to Kai von Fintel, Bart Geurts, Yahui Huang, and Elias Ponvert for very useful comments and advice on this commentary, and to Beverly Anderson, John Beavers, Alex Grzankowski, Elias Ponvert, and Dan Velleman for judgments on all the examples I cite in the main text. For any example given, at least 4 of the 5 agree with my judgments, and in the few cases where consultants had qualms about data, discussion revealed that the issue was probably not pertinent to the claims I make.

- (1) If Barack is pleased that he won and Hillary is upset that Barack won, that should not surprise anyone.
- (2) Maybe it's a Californian who's paying for a space flight and the person paying for a space flight is a tech millionaire.
- (3) It's not the case that the King of France is bald and the King of France is rich.

If you said that they presuppose that Barack won, that someone's paying to fly into space, and that there is a King of France, then I agree with you. But these are not the presuppositions predicted by PS. In fact, PS predicts that these examples have no presupposition at all.¹

PS's model depends on checking for each presupposition trigger whether it would have been better to state the presupposition explicitly: in his words, to *articulate* it. We can show that PS predicts no overall presuppositions for a complex sentence by considering an utterance context that supports no relevant information, and then asking for each occurrence of a presupposition trigger in the sentence whether the speaker should have been more explicit. Specifically, we must ask for each presupposition trigger whether it would have been better for the speaker to have articulated the presuppositional material associated with that trigger.

Consider (1), which includes the trigger "pleased that he [i.e. Barack] won". Articulating the presupposition would amount to replacing "Barack is pleased that he won" by the more explicit "Barack won and he is pleased that he won." But according to PS's model, the second conjunct "Hillary is upset that Barack won" entails that Barack won (as well as presupposing it). Therefore, in PS's model, addition of "Barack won" before the first conjunct would be redundant. And according to PS's model, adding redundant material violates the Gricean maxim Be Brief, or at least a special version of that maxim, Be Brief (Symmetric).

Similarly, articulating the second conjunct of the antecedent of (1) to form "Barack won and Hillary is upset that Barack won" would also violate Be Brief. So, articulating the presupposition of the second conjunct is ruled out. Therefore, even in a context that supports no relevant information about whether Barack won, we should not articulate either of the locally triggered presuppositions that Barack won.

According to PS, the presuppositions of a complex sentence are all the propositions that must hold in contexts of utterance so as to make articulation of presuppositions of the parts of the sentence unnecessary. But we just

¹ I am ignoring certain irrelevant presuppositions here, like the presupposition of the use of a proper name. Adding these to the mix, PS would predict that (1) presupposes the existence of a salient person named "Hillary." Oddly, he would not predict that it presupposes the existence of anyone named "Barack".

pointed out that even in an empty context, one where no relevant propositions hold, articulating the presuppositions of the parts of the sentence would create violations of PS's version of Be Brief. Therefore sentence (1) as a whole is predicted to have no non-trivial presuppositions, and in particular does not presuppose that Barack won. Of course, PS is wrong about this.

In (2), a presupposition is triggered once by a cleft and once by a definite, and in (3) we simply have the same definite description occurring twice. Similar argumentation to that I gave for (1) would show that these examples are also incorrectly predicted to have no presuppositions.

When the same thing is presupposed two or more times, PS's system produces odd consequences. Similarly if we had presuppositions A, B and C in an appropriate configuration, where the conjunction of A and B entailed C, PS predicts no presupposition. This may be a just a technical error, but a concern none the less.²

3. Crumbs from Karttunen's table

There are certain respects in which PS's proposal is like Karttunen's, and certain respects in which it differs. Let us start with the similarities.

Karttunen advocated a pragmatic explanation of presupposition behavior, such that the semantics of sentential connectives and other operators can be given in terms of standard classical logic. As well as assuming a standard (static) bivalent semantics, Karttunen used only classical logic in the calculation of presuppositional behavior: "...it comes down to having for each simple sentence a set of logical forms which are to be entailed (in the standard logical sense) by certain contexts." (Karttunen, 1974, p. 185)

² The problem I have pointed out in this section hinges on the assumption that presuppositions are entailed by their triggers, so one might consider the possibility of presuppositions not being entailed. However, PS seems to take it as a basic tenet that they are entailed, perhaps because otherwise there is no motivation for locally articulating them, and perhaps because otherwise the semantics of some expressions (e.g. definites) would be greatly complicated.

It is, perhaps, worth pointing out that there has been prior discussion in the literature of the question of whether presuppositions are locally entailed by their trigger, e.g. by Gazdar (1979). Heim (1992) offers some evidence that the additive "too" is not locally entailed. Here are some naturally occurring examples I found on the web which illustrate the same point:

- i) I'll fake a smile, if you do too
- ii) I'll keep singing if you do too
- iii) I'll stay sweet if you do too.

If "too" locally entailed its presupposition, then (i) would mean something like "I'll fake a smile if you fake a smile and someone other than you (me?) fakes a smile." But it doesn't mean that. Suffice it to say that PS's assumption that triggers entail their presuppositions is problematic, though the problem is not unique to PS.

Now we come to Karttunen’s central insight. The presuppositions of complex sentences do not emerge directly, but result indirectly by figuring out in what contexts the presuppositions are satisfied, where a context is just a set of propositions: “What is important is that we define satisfaction for complex sentences directly without computing their presuppositions explicitly.” (Karttunen, 1974, p. 185)

But how do we know when a complex sentence is satisfied in a context? The satisfaction of the complex sentence is determined in terms of local satisfaction of its parts: “. . . a given initial context satisfies-the-presuppositions-of a complex sentence just in case the presuppositions of each of the constituent sentences are satisfied by a certain specific extension of that initial context. . . . Context X satisfies-the-presuppositions-of S just in case the presuppositions of each of the constituent sentences are satisfied by the corresponding local context.” (Karttunen, 1974, p. 187) This led Karttunen to a notion of presupposition like the following:

Karttunen Presupposition Principle A presupposes B if B holds in all contexts C such that the individual presuppositions of parts of A are satisfied in their local contexts when A is interpreted in C.

Karttunen defined precise local satisfaction conditions for a range of expression types, using the following general motivation: “In compound sentences the initial context is incremented in a left-to-right fashion giving for each constituent sentence a *local context* that must satisfy its presuppositions” (Karttunen, 1974, p. 187)

In all the respects above, PS shadows Karttunen. But it is at this point that we find a crucial innovation. Karttunen showed how local satisfaction conditions can be defined for each connective and operator he considered, but PS is the first to provide a general recipe for calculating Karttunen’s local satisfaction conditions. PS’s approach is based on pseudo-Gricean maxims that he made up specially for the purpose, but PS’s idea can be cashed out in a formally equivalent way, and without reference to maxims, as follows:

Triviality A is (incrementally) trivial in a sentence S in context C if for any S’ formed from S by replacement of material on the right of A with arbitrary grammatically acceptable material that does not refer back anaphorically to A, replacing A by a tautology has no effect on whether C satisfies S’.³

³ Note that definitions of what parts of a formula are trivial played an important role in presupposition theory well before PS’s paper. See the definition of Local Informativity in the Beaver (1997, 2001) implementation of van der Sandt (1992), and the extensive use made of such notions by Blackburn et al. (2001) and Blackburn and Bos (ms). The definition of *incremental triviality* given above is intended to capture the version of PS’s model using his incremental brevity constraint. It would be straightforward to define *symmetric triviality*, by analogy with PS’s symmetric version of Be Brief.

Local Satisfaction Suppose B is a subpart of sentence S. A is locally satisfied at the point where B occurs if A would be (incrementally) trivial in the sentence obtained by replacing B by A in S.

For example, “John is a grandparent” comes out as trivial in (4) in any global context that entails that John is Mary’s father, at least if we assume general knowledge of family relationships. Thus, in the same context, “John is a grandparent” is locally satisfied where “John’s eldest grandchild” occurs in (5).

- (4) If Mary has five children and is very rich, then John is a grandparent.
- (5) If Mary has five children and is very rich, then John’s eldest grandchild will inherit everything.

More generally, the presupposition “John is a grandparent” is locally satisfied at the point where the presupposition trigger “John’s eldest grandchild” occurs in (5) relative to any global context that implies that if “Mary has five children and is very rich, then John has a grandchild.” So this latter sentence is what is presupposed by (5), if by invocation of the Karttunen Presupposition Principle. And the marvelous thing about the derivation is that it makes no reference to specific properties of the conditional or any other construction. For 34 years prior to PS’s work, there was no way of giving Karttunen-type derivations of presupposition with such generality.

4. When even the best is not good enough

PS claims that presuppositions may be satisfied on both the left and the right. He further claims that when they are merely satisfied on the right, the resulting sentences are generally not quite as felicitous as sentences where the presupposition is satisfied on the left, but are not as infelicitous as sentences where the presupposition fails completely.

I do not believe that the empirical methodology employed by PS is sufficient to justify such delicately layered conclusions, and I do not accept that PS has demonstrated that in general presuppositions may be satisfied to the right, as if they were *post-suppositions*. His prediction would be that in the context of (6), (6a) would be infelicitous, (6b) would be acceptable or, at most, slightly infelicitous, and (6c) would be completely felicitous. On my judgments, and this tallies with responses I received from the five other native speakers of English I asked, (6b) is just as infelicitous as (6a). So I don’t see any clear reason to think that the presuppositions of additives like “too” can be right satisfied.⁴ Similar comments apply to the examples in (7), involving

⁴ My comments on “too” relate to a wider concern with PS’s project: he does not say anything specific about so-called *anaphoric* presupposition triggers (the terminology is used

the cleft construction as presupposition trigger, and (8), which uses the factive noun *fact* as its trigger.

- (6) I expect nobody escaped.
- a. ? But if Jane escaped too, then we need to tighten security.
 - b. ? But if Jane escaped too and Fred escaped uninjured, then we need to tighten security.
 - c. But if Fred escaped uninjured and Jane escaped too, then we need to tighten security.
- (7) I expect nobody escaped.
- a. ? But Fred thinks that it's Jane who escaped.
 - b. ? But Fred thinks that it's Jane who escaped and that someone escaped uninjured.
 - c. But Fred thinks that someone escaped uninjured and that it's Jane who escaped.
- (8) I expect nobody escaped.
- a. ? But perhaps the fact that Jane escaped became public, in which case we need to tighten security.
 - b. ? But perhaps the fact that Jane escaped became public, and Jane escaped uninjured, in which case we need to tighten security.
 - c. But perhaps Jane escaped uninjured and the fact that Jane escaped became public, in which case we need to tighten security.

Still for current purposes, I will suspend disbelief and accept PS's judgments, so that in each of the above examples, the (b) example gets what PS lists as a "?OK" rating rather than a "?". The point I now want to make is that the theory finally settled on by PS in order to explain what he sees as the data is peculiar.

Consider how the PS model predicts presuppositions. We suppose that in context C, a speaker has to choose between producing S and S'. S contains a presupposition trigger A, such that A presupposes B, and S' is just like S except A is replaced by "B and A." Now, by assumption, S violates Be Articulate. But if the presupposition is locally satisfied relative to the global context C, then S' would violate brevity maxims, which, for reasons that PS (by Zeevat (1992)). And, more generally, PS does not directly address any of the phenomena that caused van der Sandt (1992) and Geurts (1999) to argue that presuppositions must be anaphorically resolved, rather than satisfied.

never explains, are stronger constraints than Be Articulate.⁵ So whenever a presupposition would be locally satisfied, the speaker produces the simpler S rather than S'. More generally, PS's derivation of presuppositions can be summed up by a principle like the following:

Schlenker Presupposition Principle S presupposes P if P holds in all global contexts in which utterance of S is as brief as possible, but no briefer. That is, S leads to less egregious pragmatic violations of brevity and articulateness maxims than some S' with an added conjunct.

Now recall PS's claim about the data: sentences with left satisfied presuppositions are more felicitous than sentences with only right satisfied presuppositions, which in turn are more felicitous than sentences with completely unsatisfied presuppositions. PS's explanation of this data is given in terms of the relative ranking of his maxims: Be Brief (Incremental) is stronger than Be Brief (Symmetric), while both are stronger than Be Articulate. But PS still has some work to do, since in any standard system for managing defeasible constraints, such as Optimality Theory (OT), or various non-monotonic logics, this would not be sufficient to explain the pattern of data he describes.

In standard OT, for example, ranking Be Brief (Incremental) above Be Brief (Symmetric) would not have any effect at all on the relative felicity of a non-left satisfied presupposition and a totally non-satisfied presupposition. For lack of satisfaction occurs only when the brevity maxims are obeyed, and the articulateness maxim is violated. Thus, e.g. (8a), which has a totally non-satisfied presupposition, generates one violation of Be Articulate, and similarly (8b), which has a left non-satisfied presupposition, also generates exactly one violation of Be Articulate. So far then, it does not seem obvious why one should be worse than the other. But in OT, the felicity of a possible output depends not on what violations the output gets, but on whether it gets fewer violations than its competitors. Let us accept, as PS suggests, that there is only one other relevant competitor, one which makes the presupposition explicit.⁶ In the case of (8a), the competitor would be (8a')

⁵ It seemed arbitrary to me that Be Brief should be stronger than Be Articulate, until I began to think about whether Be Articulate makes sense as a maxim of conversation anyway. For conversational maxims, by their nature, are of great generality and naturalness. But Be Articulate is highly specific, referring directly to presuppositions and conjunctions of a certain sort. Whether PS can give it a motivation or not, Be Articulate hardly has the apothegmatic profundity or Confucian zing of Grice's delicious (but slippery) formulations. Then again, to the extent that Be Articulate is itself a poorly motivated maxim, it at least makes sense that it should be weaker than Be Brief, a principle of such generality that its applications run the gamut from coding theory to philosophy of science. I do not dare to speculate on whether PS would consider the poor motivation of Be Articulate a point in his favor.

⁶ There is a standard OT approach to ensuring that these are the only competitors needing to be considered. We would assume that there was some fixed meaning that the speaker needed

- (8) a'. But perhaps Jane escaped and the fact that Jane escaped became public, in which case we need to tighten security.

Evaluating (8a,a') in the global context set up by (8), a context which does not satisfy the presupposition that Jane escaped, and does not satisfy any other relevant propositions, we obtain the following OT tableau, which establishes that (8a) should be infelicitous because it loses to a competing output.

(9)

	Be Brief Incremental	Be Brief Symmetric	Be Articulate
(8a)			*
☞ (8a')			

For (8b) and (8c), the relevant alternative productions to consider are those in (8b') and (8c'), respectively, and we obtain the tableaux in (10) and (11).

- (8) b'. But perhaps Jane escaped and the fact that Jane escaped became public, and Jane escaped uninjured, in which case we need to tighten security.
- c'. But perhaps Jane escaped uninjured and Jane escaped and the fact that Jane escaped became public, in which case we need to tighten security.

(10)

	Be Brief Incremental	Be Brief Symmetric	Be Articulate
☞ (8b)			*
(8b')		*	

(11)

	Be Brief Incremental	Be Brief Symmetric	Be Articulate
☞ (8c)			*
(8c')	*	*	

Since (8b) and (8c) win their respective competitions, standard OT predicts them both to be acceptable. In fact, it is easily seen that in the competitions PS sets up, standard OT would always predict exactly the same results with his full set of three constraints as it would without the incremental brevity constraint.⁷ But this is not what PS wants, so he cannot use standard OT to predict infelicity.

To get the results he wants, PS invokes a new principle for measuring the felicity of outputs. As he says: “(i) Be Brief leads to greater deviance when

to express, and add a high-ranking faithfulness constraint forcing outputs to correspond to that meaning. The faithfulness constraint would be defined in such a way that it ruled out all competitors except the two at hand.

⁷ To see this, note that Be Brief (Incremental) entails Be Brief (Symmetric).

its incremental version is violated than when only its symmetric version is, and (ii) the acceptability of a sentence is inversely correlated to that of its competitor.” Since (8c’) is less acceptable than (8b’), we derive that (8c) is more acceptable than (8b), and yet less acceptable than (8a) — precisely in accord with PS’s judgments, though not mine.

However, it now seems that the only utterances which PS predicts to be completely felicitous are those for which two conditions hold: first, the presuppositions are all incrementally satisfied, à la Karttunen, and second, there must be a competitor for which some presuppositions are not incrementally satisfied. This last condition strikes me as very worrying indeed. Consider one of PS’s own worked examples, his “Example 1”, considered in a context where it is not established that John used to smoke:

- (12) a. John has stopped smoking.
 b. John used to smoke and he has stopped smoking.

We obtain the tableau in (13). Although standard OT would predict that (12b) was felicitous, PS predicts that it should be infelicitous to some degree, and indeed less felicitous than e.g. (8b) (an example which for PS would be ?OK, and which, for me, is completely infelicitous). Why? Well, simply because its competitor (12a) suffers from no brevity-induced deviance at all, but only a mild articulateness violation.

(13)

	Be Brief Incremental	Be Brief Symmetric	Be Articulate
(12a)			*
☞ (12b)			

In general, it is essential to PS’s approach that whenever a speaker is considering producing a sentence in a global context such that a presupposition embedded in the sentence would not be locally satisfied, the speaker prefers to articulate the presupposition separately. But in fact PS predicts that in all such cases, articulating the presupposition will produce a result that is mildly infelicitous, because the competing sentence does not violate any high ranking constraints. Thus, for example, PS predicts that all the sentences in (14–16) should be less than perfectly acceptable in global contexts which say nothing about whether there is a French King, whether John is smart, and whether Mary is married, respectively. In fact, all three sentences are perfectly acceptable in such contexts.

- (14) If there is a King of France and the King of France is bald, he probably wears a crown the whole time.
 (15) Perhaps John is smart and he knows it.

- (16) Either Mary is rich, or else she's married and her husband is rich.

One of PS's proudest claims is that he has assimilated presupposition projection to neo-Gricean pragmatics, and thereby explained presuppositional behavior without invoking special purpose machinery in the way that everyone else does. But there is no evidence at all that PS's peculiar method of relating felicity to violations of maxims would be appropriate for Gricean maxims in general. Failing this, PS's claim that his constraints are Gricean in character would seem to be misplaced.

PS's non-standard method of applying constraints is clearly problematic. No doubt some variant approach to assessing violations will solve the problems alluded to above.⁸ But I would caution here that I am already concerned that the existing solution is *ad hoc*. I say that because it is not standard in any other linguistic domain to use a trans-derivational constraint directly linking

⁸ In fact, PS does consider, and dismiss, some alternative ways of deriving the data that eventually motivate the symmetric brevity constraint and its attendant non-standard method of constraint evaluation. His second favorite approach is to stick with an asymmetric satisfaction system, and use *local accommodation*. I am not able to follow any of PS's arguments against local accommodation, and will not comment on these further. But I would note that as far as I can see, local accommodation as standardly conceived is not a natural alternative for PS. Systems based on DRT or dynamic semantics, e.g. Heim (1983), van der Sandt (1992), Zeevat (1992), Geurts (1999), and Beaver (2001), depend crucially on intermediate contexts that speakers build up as they process a sentence. Local accommodation is then a process of manipulating one of these contexts, e.g. adding extra constraints or conditions on them. But the theory of PS does not involve explicit reference to contexts or representations. It only involves consideration of what would or would not be trivial at a given point within an English sentence.

For PS, it seems that local accommodation of some expression E would involve something like pretending the speaker had actually said E at that point. But it is entirely unclear to me how this would help. If the hearer really is prepared to pretend that the locally accommodated E was uttered, then the hearer will presumably also need to also pretend that there was a brevity violation. And if on the other hand the pretend utterance of E does not count as a brevity violation, then why should we see it as avoiding a violation of Be Articulate? Or does PS envisage local accommodation as having the effect of articulating a presupposition without a brevity violation? If so, then it counts as a quite extreme form of pretense, and presumably there would have to be a relatively high-ranking maxim (Avoid Extreme Pretense!) to prevent it happening all the time.

But where, I wonder, could this maxim be ranked so as to have the desired effects? If it was higher ranked than Be Articulate, then it would have no effect, because in cases where a presupposition would not otherwise be satisfied, we would always prefer not to locally accommodate, and put up with an articulateness violation instead. If it was lower ranked than Be Articulate, then we would never articulate a presupposition, because local accommodation would be a preferred strategy. This would be empirically incorrect, and would anyway undermine PS's entire proposal. So I find myself at a loss to understand how PS could implement local accommodation in his system, even if he wanted to.

the degree of felicity of one sentence to the degree of infelicity of another.⁹ And the result of this system is that there are some meanings for which all the candidate outputs that a speaker might use are to some degree infelicitous. That is, PS predicts that some meanings are ineffable, or at least that you can only *eff* them with some awkwardness. Put differently, in PS's variant of OT, sometimes even the best is not good enough.¹⁰ A nice thought, indeed, but I wonder whether it is really germane to the empirical issue at hand, namely presupposition projection.¹¹

5. More free predictions (but you get what you pay for)

For the logical connectives and some other operators, PS does a remarkably good job of deriving projection behavior, albeit that, for reasons I have indicated, I have doubts as regards some of the predictions of the symmetric system. But what happens when we move beyond the standard logical connectives?

Consider the connective “because”, as in (17a). To figure out what PS predicts this presupposes, we first articulate the presupposition (here: “the storm”) as in (17b). Then we have to identify the set of all contexts in which “there is a storm” is redundant in sentences properly adapted from (17b), and figure out what is common to all these contexts. Restricting myself to incremental brevity (meaning that we can effectively ignore the contribution of “it’s far away”), it seems that what all these contexts have in common is that they support (17c). More generally, PS apparently predicts that a sentence “A because B_p” (where the subscript indicates that p is a presupposition triggered by B) presupposes “If A then part of the reason that A is p”. That seems to me to be incorrect. More plausibly, the presupposition is simply that p holds (i.e. that there is a storm). Or, sticking to what a Karttunen-type system would presumably generate, the presupposition might be “if A then p” (i.e. if Mary is happy, then there is a storm).

- (17) a. Mary is happy because the storm is far away.
 b. Mary is happy because there is a storm and it’s far away.

⁹ That is not to say that PS's link between felicity of one sentence and infelicity of another is uninteresting. On the contrary: it reminds me very much of phenomena I have observed involving distributional data in existential constructions — see Beaver et al. (2005).

¹⁰ Here I echo an old theme in OT, perhaps starting with Orgun and Sprouse (1996).

¹¹ Certainly PS's approach seems foreign to the wider enterprise of Gricean pragmatics. But I wonder if Gricean flouting could be used as part of an argument in favor of PS's approach. A flout involves the violation of one maxim in order not to violate another more important principle. So the acceptability of the flout would then be proportional to the seriousness of the violations incurred by the competing alternative utterance.

- c. If Mary is happy, then one of the reasons is that there is a storm.

What about temporal connectives? Consider sentences of the form “A before B_p”, as in (18a). By consideration of the articulated alternative (18b), we determine. . . well, we determine that PS’s principles are not easy to apply. But so far as I can see, the result that he predicts is the presupposition in (18c). Again, this is clearly incorrect.

- (18) a. Mary went to the doctor before John realized she had been sick.
 b. Mary went to the doctor before she had been sick and John realized it.
 c. If Mary went to the doctor, then she did so before she had been sick.

I believe that there are many constructions for which PS’s principles are difficult to apply or produce peculiar results. But I will limit myself to one last type of construction, comparatives. What, we may ask, are the presupposition projection characteristics of comparatives? What, for example, is the presupposition of the comparative in (19a), which has a definite description embedded in a comparative clause? To answer this in PS’s system, we should examine the articulated competitor in (19b). But the articulated competitor is infelicitous. It seems that PS’s system simply fails to make a prediction here.

- (19) a. Mary is thinner than the King of France is fat.
 b. ? Mary is thinner than there is a King of France and he is fat.

More generally, PS has found a neat way to calculate local satisfaction conditions automatically. But as he realizes (and indeed takes to be a positive) this leaves him with no flexibility. Karttunen can, in principle, define whatever local satisfaction conditions for an operator he chooses.¹² But PS is committed to deriving all satisfaction conditions from general pragmatic principles. So if it should turn out that there are operators for which these general pragmatic principles make incorrect predictions, then the principles must be wrong. Or else the principle of using only these principles is wrong. PS’s program is an attempt to state the briefest theory of presupposition possible. But the examples I’ve presented indicate that some individual specification of satisfaction conditions for different operators might be necessary. If so, then PS’s theory is too brief.

¹² In this respect, dynamic semantic approaches, like that of Heim (1983, 1992) have the same flexibility as Karttunen’s. Indeed, much of Heim (1992) is taken up with a consideration of whether there is a way of defining belief operators such that the right projection behavior results.

6. Conclusion

PS is not primarily a competitor to Karttunen (1974): it is, rather, a way of motivating something like Karttunen's approach. It is not clear to me yet how broadly PS's motivation applies, for as we saw in the previous section, even if we restrict ourselves to the incremental part of PS's system, it fails to generate correct predictions for some operators. Yet if we see PS as providing the beginnings of an explanation as to what was right in Karttunen's model, rather than as a wholesale replacement for Karttunen's model, then I believe we can get the best of both worlds. And if we happen to be dynamic semantic stalwarts, then we can perhaps see PS as providing an explanation for why certain dynamic meanings for connectives and operators should arise historically. In this case, we would have a pragmatically motivated theory that allowed for peculiarities to creep in to the satisfaction properties, or dynamic meanings, of individual operators.

PS succeeds in motivating Karttunen's model, but PS attempts to go further. I find the further developments in PS's paper provocative and interesting. However, the data motivating a symmetric approach to local satisfaction is, in my view, slim, and I have presented examples which mitigate against it — (6b), (7b), and (8b). The peculiar trans-derivational comparison PS uses to predict what he sees as the data on symmetric satisfaction is *ad hoc* and generates completely incorrect predictions, for example incorrectly predicting mild infelicity for (12b), (14), (15), and (16). There are, furthermore, additional technical problems with PS's approach, for example the incorrect prediction that (1), (2), and (3) lack presuppositions. The problems I have discussed suggest to me that none of the developments in PS's paper, other than those which support Karttunen's (1974) model, are ready for prime time.

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