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Using triggers without projecting presuppositions

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Abstract

Presuppositions are capable of projecting from under the scope of operators such as negation, but do not obligatorily do so. This creates a potential difficulty for the hearer of presupposition-bearing utterances, especially given the fact that speaker can use presupposition to convey entirely new information. In this paper, I discuss the potential role of context in resolving this tension, and in particular, I argue that the inferences that are drawn about the current discourse purpose may be materially relevant to the interpretation of potential presuppositions. I also consider some of the implications of this for recent experimental work on presupposition and projection.

Keywords: presupposition, projection, accommodation, context, QUD

Introduction

The topic of projection has been the focus of much recent empirical and theoretical work. Simons et al. (2010: 309) define it as follows: "An implication projects if and only if it survives as an utterance implication when the expression that triggers the implication occurs under the syntactic scope of an entailment-cancelling operator." The projective behaviour of presuppositions has long been of especial interest (see for instance Heim 1983), with projection (especially from under negation) classically being diagnostic of presuppositions.

There are two complications with this. First, as Potts (2005) discusses, various types of meaning that are not evidently presuppositional can nevertheless project. Secondly, meanings that do appear to be presuppositional do not necessarily project. For instance, the verb *realise* can be argued to presuppose its propositional complement, and correspondingly (2), like (1), presupposes (3). However, the continuation (4), which denies the truth of this presupposition, is perfectly possible and seems coherent.

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(1)   John realised that Kate was in New York.

(2)   John didn't realise that Kate was in New York.

(3)   Kate was in New York.

(4)   John didn't realise that Kate was in New York, because she wasn't – she was in Chicago.

Restricting our attention to presuppositions, this apparent inconsistency of projection behaviour is surprising, not least because of the availability of accommodation (a term coined by Lewis (1979)). Von Fintel (2008: 137) characterises this as "the process by which the context is adjusted quietly and without fuss to accept the utterance of a sentence that imposes certain requirements on the context in which it is processed". From this perspective, following work by Stalnaker, presuppositions can be seen as requirements that the common ground must meet in order for a new contribution to the discourse to make sense or take effect. This, loosely speaking, explains why projection might take place: if something is a precondition for asserting that something is the case, as (3) is for (1), it might reasonably also be a precondition for asserting that that thing is not the case, as (3) is for (2).

In practical terms, presupposition accommodation means that presuppositions do not need to be part of the common ground at the time of utterance. The hearer of (5), for instance, might reasonably draw the reparatory inference (6) if they do not already know it to be true. They might also infer the existence of entities referred to by the expressions "Grigori Perelman" and "Poincaré conjecture".

(5)   Grigori Perelman proved the Poincaré conjecture in 2006.

(6)   The Poincaré conjecture is true.

By exploiting accommodation, speakers can convey new information in the form of presuppositions. This process appears to be very widespread in interaction. For instance, the use of definite descriptions is studied by Poesio and Vieira (1998). Around 50% of the definite descriptions in their corpus do not relate to any antecedent in the text (they code these as "Larger Situation/Unfamiliar"), and a further 15% are "Associative" (that is, they refer to an entity whose existence might be inferred based on the earlier discourse but which has not been specifically introduced in its own right). In principle, then, up to 65% of the definite descriptions in their corpus might require some form of accommodation. In practice, however, this percentage is likely to be a lot lower: the Larger Situation/Unfamiliar category encompasses numerous expressions whose reference could be assumed to be part of the interlocutors' common ground irrespective of its non-appearance in the linguistic prior context ("the government", "the Iran-Iraq war", etc.)

Whatever the precise situation for definite descriptions, there appear to be other presupposition-triggering expressions whose usage often exploits accommodation. According to Spenader (2002: 3), "Factive presuppositions are overwhelmingly used to communicate information believed to be hearer-new". Taking, for instance, "realise", it is easy to find examples in which the presupposition can be presumed both to be novel to the discourse and entirely new to the common ground. The following items from the British National Corpus (BNC) seem to be of precisely this type: (7) and (8) introduce information about an individual's subjective experience, while (9) refers to objective information that the hearer is not presumed to know.

(7)   The next day, she realised that the memory had lost its sting at last. (CA5 2362)

(8)   I realised that I was driving far too aggressively for my own, and any other road user's, good. (CS4 1722)

(9)   She hadn't realised that Elise had used this space for storing things which weren't often needed. (HA7 3729)

In all these examples, the declarative content relates to the change in the mental state of some agent (the referent of "she" in (7) and (9), and the narrator in (8)) with respect to some proposition that is then introduced. In (7) and (8) the change in state from "not knowing that p" to "knowing that p" is asserted, while in (9) it appears to be implicated, in that only the past state of "not knowing that p" is asserted. To be sure, these changes in mental state may be important to the respective narratives, but in each case they appear to play second fiddle to the new propositions that are introduced as presuppositional arguments. In effect, two pieces of information are conveyed briskly and efficiently each time, one by assertion and one by appeal to presupposition accommodation, but in these examples the latter is more important to the immediate discourse purpose.

In this paper, while attempting to remain neutral on questions about the nature of presupposition, I consider the consequences that inconsistent projection behaviour has for the use of accommodation, both from the hearer's and from the speaker's perspective. In particular, I discuss some of the implications of this for the interpretation of recent experimental data on presuppositions. In the following section, I begin by exemplifying how the use of accommodation might, in principle, go wrong.

Issues with accommodation

Although the exploitation of presupposition accommodation is a convenient and seemingly efficient way to convey additional information, several undesirable side-effects are possible. Here I focus chiefly on the hearer's problem in determining whether or not to project the presupposition, but before turning to that question, I will just mention two other issues, one

connected with information packaging and addressability, and one with the issue of determining what presupposition is intended.

First, one potentially disagreeable consequence of conveying new information by accommodation rather than by assertion is that the resulting information may not be as addressable as it would otherwise have been. On one view, because presuppositions are informationally backgrounded, they are not easily addressed or challenged by the hearer. This is the basis for the "Hey, wait a minute" test of von Fintel (2004), which notes that a circumlocution is required to challenge presupposed content (as in (10)) but is not appropriate for challenging declarative content (as in (11)).

(10)   Hey, wait a minute, I had no idea that Kate was in New York.

(11)   Hey, wait a minute, I had no idea that John realised that.

If presuppositions are intrinsically immune to direct challenge, then there are risks associated with introducing new information in this way. The speaker appears to be making it intentionally difficult for the hearer to query the information, which has the effect of making that information privileged. This can be face-threatening in cases such as (12), where the hearer would presumably wish to deny the presupposition.

(12)   Have you stopped embezzling company funds yet?

However, the idea that presuppositional information is necessarily immune to direct challenge may not be tenable. Recent experimental data suggests that the extent to which presupposed content is directly addressable varies between triggers. Cummins, Amaral and Katsos (2013) elicit acceptability judgments for dialogue fragments in which the hearer answers a presupposition-bearing polar question either by addressing the foregrounded or the

backgrounded content. They document substantial variability between triggers, with certain triggers (such as *regret*) yielding reasonably high acceptability in cases such as (13).

(13)   A: Did Tracy regret giving up her job?

         B: No, because she didn't give up her job.

More generally, if we follow the view of Tonhauser (2011) that addressability depends upon the status of information with respect to the Question Under Discussion – that is, whether or not the information is the main point of the utterance – then certain presuppositions might be expected to behave like assertions in this respect. It certainly seems possible for presupposed content to serve as the answer to the Question Under Discussion: for the explicit question (14), (15) and (16) both seem to serve as adequate answers, even though the latter relies upon presupposition to do so.

(14)   Did you make it to the concert on Saturday?

(15)   I had a schedule clash.

(16)   I realised I had a schedule clash.

Leaving aside this question of whether accommodation results in information being packaged appropriately, a second widely-discussed issue is precisely what presupposition should be accommodated in any given case. For complex sentences, this is a difficult and subtle matter, as the discussion in Geurts (1996) and Beaver and Zeevat (2007) makes clear. It does not generally seem to be true that the hearer merely accommodates the weakest proposition that is required in order for the declarative content of the utterance to make sense. As Geurts (1996: 269) points out, the hearer of (17) will presumably accommodate (18), whereas the weaker (19) would suffice.

(17)   If Theo hates sonnets then his wife does too.

(18)   Theo has a wife.

(19)   If Theo hates sonnets, then he has a wife.

Moreover, in cases such as "too", the precise nature of the presupposition is not necessarily clear. Example (20), due to Kripke (2009), is problematic in this respect: given that millions of people have dinner in New York, it is non-trivial to identify what the speaker means by "too".

(20)   John is having dinner in New York too.

Here I wish to focus on a third issue, which potentially arises even in cases where the content of the required presupposition is not in doubt. As discussed earlier, presuppositions can fail to project to the discourse level: that is, a speaker can felicitously produce an utterance that seems to carry a presupposition without necessarily intending to convey (or even admit) that the presupposition is true. This appears to conflict with the possibility of speakers exploiting accommodation to convey new information. If a speaker presupposes p, but that does not necessarily constitute a commitment on their part to the fact that p, why should a hearer assume p? This appears to be a recipe for miscommunication.

In the following sections, I discuss this apparent problem from the hearer's and from the speaker's perspective, considering how the hearer can avoid falling into this kind of error and what obligations a cooperative speaker has to prevent this from happening. Then I discuss the implications of this for recent experimental work on presupposition projection.

Choosing whether to project a presupposition

There are several logically possible statuses for the presupposition of an utterance (assuming, for expository convenience, that there is a single clearly identifiable presupposition). It may already be part of the common ground at the time of utterance, and mutually known by speaker and hearer. It may be known to neither the speaker nor the hearer, or it may be known to the hearer but not the speaker. And it may be known to the speaker and not the hearer, which is the case in which the communication of the presupposition by means of accommodation is possible.

Cases in which the presupposition is already mutually known do not pose any problems for accommodation, for the obvious reason that no accommodation is required. The same is true of cases in which the hearer but not the speaker already knows the presupposition to be true. The interesting cases are those in which the hearer does not know whether the presupposition is true, and the speaker may or may not know, as the hearer's task here is to determine the speaker's knowledge state with respect to the presupposition and thus work out whether or not accommodation should take place. Of course, this presents no challenge in unembedded contexts (such as (1)) because the speaker is clearly committed to the truth of the presupposition in such cases, but in embedded contexts, the question of whether to accommodate the presupposition (i.e. whether to project it out of the embedding) is not necessarily straightforward.

To illustrate this, let's consider (21), which we can take (like (22)) to presuppose something to the effect of (23).

(21)   John didn't quit his job as a police officer.

(22)   John quit his job as a police officer.

(23)   John had a job as a police officer (at some point prior to the time of utterance).

As in the earlier examples, however, a speaker can felicitously utter (21) without being committed to (23). For instance, the continuation might be (24).

(24)   John didn't quit his job as a police officer; he was a private detective.

Given this uncertainty, we can ask when the hearer ought to accommodate the presupposition (23). I assume that, in principle, it is desirable for the hearer to perform accommodation as soon as possible: that way, new material can be added to the hearer's situation model and used as a basis for subsequent reasoning. To put it another way, there is little point in the speaker communicating information briskly and economically by way of accommodation if the hearer is not able to accept and make use of that information. But the risk of adopting a strategy of immediate accommodation would be that occasionally we run into utterances like (24), at which point the hearer has to back-track and cancel the process, as well as negating any subsequent deductions that have been made on the basis of this information.

Based on (21) and (24), we might assume that the hearer should simply wait until it becomes clear that the presupposition is not going to be contradicted by the speaker before accommodating it. However, it seems possible to construct examples such as (25) and (26) in which the speaker's clarification of whether or not the presupposition holds is deferred for an arbitrarily long time.

(25)   John didn't quit his job as a police officer; that was his brother Bill. Bill's now working as a security guard. (…) John is a private detective.

(26)   John didn't quit his job as a police officer; that was his brother Bill. (…) John is planning to quit, though.

If these examples are felicitous, they seem to suggest that the hearer's strategy for accommodating presuppositions cannot be entirely straightforward. Here, the question of

whether or not the speaker is committed to the truth of the presupposition is only resolved when it is contradicted or reinforced by a positive sentence. We could also imagine that side-sequences of conversational turns might intrude between the beginning and end of these examples, so it is not just a matter of waiting for the end of the current speaker's turn.

Does this suggest that the process of accommodation should be arbitrarily delayed until firm information is received about the speaker's attitude towards the presupposition in question? Surely not. In the first place, this would be counterintuitive: the hearer of (21), as a stand-alone discourse contribution, would be entitled to assume the truth of (23). Secondly, if the speaker is being cooperative, then it makes no sense for them to try to exploit accommodation to convey new information if this turns out not to have any effect. The fact (assuming it to be so) that a cooperative speaker could say (25) or (26) strongly suggests that there is in fact no problem, and that the hearer is in practice reliably able to determine whether or not the speaker intends to convey the presupposition.

Here it is important to remember that, although we are discussing these utterances out of context, the real-life hearer has access to various forms of contextual information. This may also be signalled through the utterance itself to some extent, for instance by the use of a particular intonation contour. The importance of context, and its implications for linguistic research methodologies, have been acknowledged fervently but intermittently in the literature: Beaver (2004: 79) observes, for instance, that "the mysteriousness of the way in which people 'make up a context' for [single-sentence] examples is generally recognised to be problematic for standard linguistic methodology". This is especially acute in the case of presupposition – "the question of what a sentence presupposes becomes a question of what propositions hold in normal contexts of utterance of the sentence" (ibid.) – although the same

point has been raised in experimental studies of scalar implicature (Breheny, Katsos and Williams 2006: 445).

We can construe this idea of context in several ways. A convenient notion is Question Under Discussion (QUD), alluded to above. The QUD is defined by Roberts (2012) as the immediate topic of discussion, or more precisely, the question that the interlocutors are currently committed to trying to answer. Adopting this approach is a helpful simplification here in some respects: for instance, Roberts (2012: 1) posits that "the prosodic focus of an utterance canonically serves to reflect the question under discussion (at least in English)", and Simons et al. (2010) argue that projection is tightly linked to QUD, and that what projects is precisely what is not at-issue with respect to the QUD. So there are grounds to be optimistic that the use of a QUD-based analysis can help us address the issue of projection while also accounting for the possibility that intonational cues are relevant.

From this perspective, we can try to characterise the contexts under which utterances such as (21), (22) and (24)-(26) are felicitous. For all these utterances, could the QUD at the time of utterance be "whether (23) is the case"? Intuitively, no, because none of these utterances possess declarative content that answers this QUD: therefore, if the utterances are not deficient for the current discourse purpose, that discourse purpose cannot involve determining the truth or falsity of (23). A more appropriate candidate for the QUD in each case is "whether it is the case that John quit his job as a police officer", because all these utterances directly answer that in the negative. Indeed, in the case of (25) and (26), we might identify that the question is naturally construed as something like "whether the individual who quit his job as a police officer was John". The idea that the QUD would be constrained in this way fits with the claim that the use of negative sentences is generally disfavoured (see for instance Gennari and MacDonald 2006).

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Taking a further step back, we might ask how a situation could arise in which the QUD is of the presupposition-containing kind argued for in the preceding paragraph. It is possible, in principle, that this could occur simply because the speaker chooses to answer this question, whether or not it has been "asked" as such – however, to do so in an unmotivated way would not be cooperative. The most likely explanation appears to be that the question of "whether it is the case that John quit his job as a police officer" has been explicitly or implicitly raised in the preceding discourse. I would suggest that the most likely context for (21), (22) and (24)-(26) would be either a direct question such as (27), or an assertion such as (28).

(27)   Did John quit his job as a police officer?

(28)   John quit his job as a police officer.

If the hearer of the subsequent utterance, H, is the speaker of (27) or (28), there is no question of accommodation. Through their utterance, H has already signalled that they consider (23) to be common ground (or, at least, that they believe (23) should be common ground, and that their addressee is welcome to accommodate it). If the response to H's utterance is, for instance, (24), there is no intention to communicate (23), because H already believes it to be true. Therefore, there is no danger of misleading H by causing them to add a false proposition to their discourse model. If the speaker also wishes to convey that H is incorrect in believing that (23) holds, they can do so, but their obligation to correct H's errors is perhaps not so pressing as their obligation to avoid introducing new ones.

From the perspective of anyone other than the speaker of (24) and H (for instance, another discourse participant, or for that matter a linguist or experimental participant tasked with understanding a decontextualised utterance), it also seems doubtful whether the process of dealing with the presupposition of (24) can really be construed as accommodation or indeed as projection. Again, the utterance suggests that a QUD with the presupposition (23) is

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currently in effect. We might draw the inference that some other individual than the speaker of (24) believes (or has acted as though) (23) is true. We might also infer that the speaker of (24) does not have an especially impassioned opinion to the effect that (23) is false, as otherwise they might immediately have said so. These inferences might guide us to an informed opinion about whether or not (23) is true. But if we do accept (23), we do not seem to do so in order for the utterance to make sense, and nor do we seem to do so as a consequence of the content of the utterance *per se*. On this account, we do not infer (23) from (24) because of the meaning of the word "quit", as used by the speaker of (24), but just because the felicity of (24) implies that someone thinks (23) is true.

Later I consider the potential implications of this claim for a sample of recent experimental studies on presupposition. However, before doing so, I look briefly at the speaker's side of the bargain, and in particular consider whether the speaker's task should also influence the approach that the hearer (or overhearer) should adopt to new presupposed material.

Influences on the speaker's choice of utterance

In the previous section I argued that, under certain discourse conditions, a speaker can produce an utterance such as (24) without there being any risk of accidentally communicating the presupposition of the first clause and thereby misleading the addressee.

(24)   John didn't quit his job as a police officer; he was a private detective.

However, even accepting this account, showing that an utterance is not actively deceptive does not suffice to motivate its use. Why might the speaker choose to run the risk of deceiving a hearer (for instance, one who was not conversant with the prior discourse context), rather than using an alternative utterance that did not give rise to the same presupposition?

As discussed in the previous section, we may suppose that the QUD at the time of utterance of (24) is something like "whether John quit his job as a police officer". (24) then serves to answer this polar question in the negative. In the previous section I argued that the utterance of (24) strongly suggests that the QUD already carries the presupposition of interest. However, the converse does not apply: the fact that the QUD carries a presupposition does not necessarily imply that the response should also be capable of conveying that presupposition. For instance, (29), which does not carry the presupposition, would also serve to answer this QUD in the negative.

(29)   John never was a police officer.

On the face of it, it seems deliberately contrary of the speaker to produce an utterance such as (24) and give rise to this kind of uncertainty about their attitude to the presupposition. However, there are possible justifications for this. One is that (24) might be considered a more direct answer than (29), and consequently require less processing in order to give rise to the required cognitive effect (making it more relevant, in the sense of Sperber and Wilson 1986/1995). A distinct but related point is that it might be less face-threatening to provide the answer (24) rather than (29), in that it minimises the extent to which the hearer is explicitly contradicted (if the hearer is committed to the presupposition). This has an analogue in the domain of implicature: Bonnefon, Feeney and Villejoubert (2009) show that informationally weaker utterances are preferred if their stronger counterparts would be face-threatening. A third possibility is that low-level priming effects might be coming into play (along the lines posited by Pickering and Garrod 2004, or discussed by Branigan, Pickering and Cleland 2000). If the preceding utterance is (27) or (28), this might prime the next speaker to use the word "quit" or even the string "quit his job as a police officer". That is to say, these forms could be produced at a lower cognitive cost, and might consequently be favoured by the

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speaker, even if they are not directly pertinent to the speaker's communicative intention. All these are reasons why the speaker might use an expression that usually triggers a presupposition without intending to trigger one.

When we examine the speaker's choice of utterance, it becomes relevant to consider what alternatives are available. In this respect, there are appreciable differences between presupposition triggers. For instance, utterances that finish "too" could be considered to compete for selection with those same utterances with "too" omitted, and the same is true of utterances with "again". Similarly, (30) or (31) could be considered to be in competition with (32), which does not give rise to a presupposition, but by contrast (33) does not seem to have an obvious presupposition-free alternative that does not involve circumlocution.

(30)   John doesn't know that Kate is in New York.

(31)   John doesn't realise that Kate is in New York.

(32)   John doesn't think that Kate is in New York.

(33)   Kate doesn't regret being in New York.

There are also no obvious alternatives to utterances involving "stop", "quit", "continue", and so on: that is to say, there are certainly alternatives that convey the relevant information without suggesting the presence of a presupposition, but those alternatives do not stand in any obvious relation to the original utterances.

The importance of alternatives to presupposition projection has been addressed in the literature, notably by Blutner (2000) and Zeevat (2002), working within the framework of bidirectional Optimality Theory. For the purposes of this paper, I merely make the general point that the likelihood of a speaker responding to a presupposition-bearing QUD with a

potentially presupposition-bearing utterance may well depend upon the availability of non-presupposition-bearing alternatives. By "availability", I mean to acknowledge both that the language may not provide convenient lexicalised alternatives, and that the speaker's decision process may be influenced by social and cognitive factors of the kinds briefly discussed above. A rational hearer should be able to take these factors into account in determining whether or not a new presupposition is in fact part of the speaker's communicative intention. However, if this account is along the right lines, a full and precise characterisation of this process would require (*inter alia*) a full inventory of presupposition triggers, their alternatives and the associated costs of both, none of which I shall attempt to provide here.

Imagined context in experiments on presupposition projection

It is widely assumed (as noted earlier) that the use of decontextualised utterances in experimental pragmatics is potentially problematic. Different participants may infer different contexts of utterance and consequently arrive at varying interpretations of the test material, while not disclosing to the experimenter the details of the context that they inferred (which in any case may not be accessible to introspection).

Taking a QUD-based approach to context, it is tempting to assume that we can alleviate this problem by providing an explicit question, and can then test discourse fragments consisting of question-answer pairs. This may indeed be an improvement, but even then we cannot entirely eliminate the effect of imagined context. Roberts's (1996/2012) conception of QUD is that a discourse can be construed as having a stack of questions, the ultimate discourse goal being to answer all these. (Or, looking at it top-down, the practice of discourse involves constructing a plan to achieve some high-level goal, the plan consisting of a series of questions that must be answered.) Consequently, although we may be able to control for the current QUD, we cannot so easily control the contents of the whole stack, and nor can we

prevent participants from inferring – based on the current QUD – the presence of other questions in the stack, or the existence of specific high-level discourse goals.

Here I look briefly at some of the recent experimental literature, with particular attention to whether inferences about context might be coming into play, and whether these have any implications for the interpretation of the results.

I turn first to Chemla and Bott (2013), as this reports some of the first experimental data on projection. The critical sentences in their experiment are of the form (34)

(34)   The zoologists did not realise that elephants are reptiles.

In these sentences, the presupposition trigger "realise" is yoked to an obviously false proposition and placed under the scope of negation. Participants were presented with these sentences in the context of a cover story (involving alien zoologists and geologists landing on Earth and learning about its animals and minerals, respectively), and asked to judge them true or false.

The main objective of Chemla and Bott's study was to shed light on the time-course of presupposition projection. In what they term the global-first model, presuppositions are first projected to the discourse level, and the resulting reading may subsequently be revised, for instance because of a clash with established knowledge. In the local-first model, the initial step involves applying the negation operator to the whole sentence; the presupposition may subsequently be projected for pragmatic reasons. Their predictions were that, if the global-first view was correct, rejections of (34) would be given faster than acceptances, whereas if the local-first view was correct, the reverse would be true. In their experiment, participants were indeed split as to the truth or falsity of sentences like (34), and rejections were faster than acceptances, which they take to support the global-first view.

In discussing their results, Chemla and Bott (2013) acknowledge the possibility that the difference in response times could also conceivably be attributable to a greater difficulty in deriving local interpretations, for example because they require a greater memory search to verify. The above discussion offers one way of developing this kind of explanation. We might posit that one circumstance in which we would call (34) true is if we took it to be the answer to (35).

(35)   Did the zoologists realise that elephants are reptiles?

Conversely, if the QUD did not encompass the presupposition, we might be more inclined to judge (34) false. However, it is not clear that (34) would be felicitous in response to a neutral question such as (36). Even in the case of (37), we might share an expectation that a felicitous answer should make reference only to true propositions.

(36)   What did the zoologists do?

(37)   What did the zoologists not realise?

In short, it is tempting to posit that the difference between the participants who gave acceptances and those who gave rejections is that the former imagined a context which made (34) felicitous while the latter did not do so. Here I argue that there may not be a context without the presupposition already present that would make (34) felicitous; if this is so, then whenever (34) is felicitous it should be judged as true. However, without committing to such a strong claim, it seems plausible that the group giving acceptances were more likely to have imagined a context, which offers a credible alternative explanation for their relative slowness of response.

Generally, I should also remark that an issue that arises when comparing acceptances and rejections, as in Chemla and Bott's study, is that the two groups of responses reflect different

understandings of what is being communicated. This is, of course, the whole point of the enterprise: it is the effort taken to arrive at each of these understandings that is being compared. However, it would be surprising if this kind of split in response preferences was present in normal language use. Undoubtedly ambiguities arise, but any utterance that splits its hearers 50-50 as to its appropriate interpretation could hardly be called an effective piece of communication. In practice, we would expect such an utterance – if felicitous – to be disambiguated by the context. Consequently, it is perhaps optimistic to suppose that the patterns of interpretation for such sentences in the lab are not heavily dependent on context, both that provided by the experimenter (which intentionally preserves ambiguity, in such paradigms) and that imagined by the participant (which resolves the ambiguity, at least to the extent that a response can be provided).

A similar story to that outlined above might apply in the case of conditionals, as investigated, for instance, by Xue and Onea (2011). Their study looks at the variability in the projection behaviour associated with different presupposition triggers. To do this, they examine (the German equivalents of) utterances such as (38), and ask participants corresponding questions such as (39), giving the choice of "yes, it's possible", "no, it's not possible", and "I don't know".

(38)   If Thomas makes sushi again, Maiko will help him.

(39)   Is it possible that Thomas hasn't made sushi before?

Xue and Onea (2011: 176) acknowledge that the target sentences are presented out of context, and that their experimental participants are not real discourse participants. In order to interpret the results, they "assume that the subjects, when confronted with a target sentence, always reconstruct a conversational context with themselves as hearers and an imaginary speaker". As touched upon earlier, I think this assumption is problematic given that the goal

is to study projection behaviour. If we are to imagine that (38) is part of a real dialogue, there must be some justification for the speaker's choice of utterance: especially noting that, rather like the case of negation, the use of a conditional is surely a marked and somewhat costly option. We might, for instance, assume that the prior conversational turn ran along the lines of (40), although in this case there do appear to be other possibilities such as (41).

(40) What if Thomas makes sushi again?

(41) Can Maiko help with dinner?

If, as a participant, I am imagining that I am engaged in a conversation with the speaker of (38), it seems natural further to imagine that I must previously have asked a question such as (40) or (41). In the former case, I am definitely aware that Thomas has made sushi before; in the latter case, I may or may not know this. When asked a question like (39), I might then answer based upon the prior knowledge that I am assumed to have – playing along with the experimental scenario – or based upon the knowledge that I am presumed to derive from the utterance (38).

For Xue and Onea's purposes, this objection may not be relevant. However, it appears to be an open question whether or not the use of different presupposition triggers results in different assumptions about the content of the prior context. Without this information, or an experiment that very tightly controls the actual prior context that is presented, it is hard to be sure where any differences in the projection behaviour of different triggers actually originate.

Many of these points also apply to the experimental work reported by Smith and Hall (2011), in that they also present decontextualised presupposition-triggering sentences and ask participants to respond to questions about them. However, Smith and Hall's approach does have a couple of potentially useful properties that may contribute to alleviating the concerns

raised in this paper. First, they elicit a scale-based judgement rather than a yes/no/don't know response, which is helpful if the participants wish to render more nuanced judgments, as might be the case if those judgments are probabilistically informed by unknown contextual factors. Secondly, Smith and Hall directly contrast projective and non-projective entailments, as exemplified by (42) versus (43), within the same experimental paradigm.

(42)   I know that Jamie broke the copier.

(43)   Jamie broke the copier.

Although this experiment still leaves open the possibility of participants inferring specific QUDs and using these to inform their interpretations, the comparative study of projective versus non-projective meanings of the same kind (and the comparative study of different embedding environments, also part of Smith and Hall's study) might help us quantify the scale of this problem. Within this kind of paradigm, it would be possible to address the issue of context more fully, either directly by asking participants what context they imagined, or indirectly by asking them the basis for their judgments about the interpretation of the test sentences.

Conclusion

The correct accommodation of presuppositions – that is, accommodation that matches with the communicative intention of the speaker – appears to be something that competent language users can reliably accomplish. On the basis of decontextualised single utterances, however, this problem appears complex. This immediately suggests that the correct interpretation of presuppositional material, at least in some cases, relies heavily upon context. This does not appear to be a controversial point, but its implications for the experimental investigation of presupposition have not always been acknowledged. In particular, I have

argued here that contexts may license the use of potential presupposition triggers, while also making it clear to the hearer that no presupposition is intended to be conveyed. For this reason, it may be desirable to pay closer attention to the imagined contexts of utterance, and the alternatives that would be available to our fictitious experimental "speakers", in order to interpret the results of empirical presupposition studies as accurately as possible.

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Data cited herein have been extracted from the British National Corpus, distributed by Oxford University Computing Services on behalf of the BNC Consortium. All rights in the texts cited are reserved.

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