When objecting to presupposed content comes easily

Alexandra Lorson, Chris Cummins and Hannah Rohde
The University of Edinburgh, EH8 9AD, UK
{a.lorson, ccummins, hannah.rohde}@ed.ac.uk

Abstract

New content can be introduced into dialogue via presupposition as well as by assertion, but on traditional accounts presupposed information is expected to be less addressable in the subsequent dialogue. An alternative approach is to argue that addressability is more closely connected to whether content is at-issue with respect to the current Question Under Discussion. This paper investigates which of these factors is dominant. We report the results of a dialogue-based experiment designed to test whether and how false at-issue content is responded to in an ongoing discourse, and whether this is affected by its status as asserted or presupposed. Our findings suggest that when material is at-issue it can be challenged directly, independently of whether it is presupposed or asserted. However, relevant information introduced by a presupposition was found to be more likely to escape the participants' attention.

1   Introduction

Speakers in dialogue can introduce new information in the form of presupposition: that is, by presenting it as though it were already part of the common ground. In the case of (1), the expression *my car* carries an existential presupposition to the effect that the speaker has a car, but (1) can nevertheless be uttered in a context in which the hearer does not already know this.

Sorry I'm late: my car broke down.   (1)

Similarly, in cases such as (2) and (3), the presence of the expressions *quit* and *be happy that* gives rise to presuppositions that might not already be known to the hearer, namely that John used to smoke and that Mary's boss is away.

John is anxious. He quit smoking.   (2)

Mary is happy that her boss is away.   (3)

This paper focuses on the status of new content that has been introduced via a presupposition. The study we present uses an interactive dialogue paradigm to probe whether and how such content is addressed as a discourse proceeds. The goal is to better understand how a speaker's choice of information packaging strategy within an individual utterance, considered alongside the active Question Under Discussion across the broader discourse context, influences an interlocutor's subsequent discourse continuations and their ability to take up particular content.

2   Background

We can identify the meanings mentioned above (that John quit smoking, and that Mary's boss is away) formally as presuppositions of (2) and (3) on the basis of their ability to project from under the scope of operators such as negation: (4) conveys the same presupposition as (2), and (5) as (3).

John is anxious. He didn't quit smoking.   (4)

Mary isn't happy that her boss is away.   (5)

Following Lewis (1979) and Von Fintel (2008), the utterance of (1)-(5) to a hearer who lacks the shared knowledge is argued to involve the exploitation of **accommodation**: the speaker acts as though a presupposition is already part of the common ground, and the hearer responds by adjusting their world-view, or situation model, to incorporate that presupposition. However, this relies on the assumption that the presupposition is one that the hearer is willing to entertain (or at least to ignore; see Glanzberg 2005) rather than one that the hearer refuses to accept or wishes to challenge. In normal cooperative conversation this assumption seems generally to be satisfied, but it's

easy to find cases in which it is violated by a speaker deliberately introducing potentially controversial material in the form of a presupposition, as in (6).[1]

Everybody knows that Brett Kavanaugh's confirmation was a farce. (6)

Why, then, would a speaker choose to package information in the form of a presupposition rather than as a regular assertion? In the cooperative cases where the information is relevant but uncontroversial, we could see this as arising partly from efficiency considerations – an utterance such as (1), (2) or (3) is more concise than the corresponding version in which the presupposed content is directly asserted ("I have a car and it broke down", etc.). But independent of efficiency, speakers might also select particular ways of packaging information because they anticipate how the discourse will proceed and what content will (or should) be taken up in subsequent utterances. Presupposed information, unlike asserted information, is typically regarded as difficult to address in the ongoing discourse. This is again connected to the projection behaviour of presuppositions. If a speaker utters (7) in response to (3), they are most naturally taken to be denying the assertion of (3) rather than its presupposition. As shown by (5), if we simply negate (3) we allow the presupposition to stand, because it projects from under the scope of negation. Hence, the speaker who responds to (3) with (7) is most naturally understood to mean (5).

That's not true! (7)

Von Fintel (2008), following Shanon (1976), argues that this offers a convenient diagnostic for presupposition: if we wish to deny a presupposition, we have to use a circumlocution such as "Hey, wait a minute…", as shown in (8) (again considered as a response to (3)). This is dispreferred as a means of addressing asserted content, as shown by (9).

Hey, wait a minute, her boss isn't away. (8)

?Hey, wait a minute, she's not happy. (9)

Given the relative lack of addressability of presupposed content, we might expect cooperative speakers only to presuppose information that they do not expect to be taken up in the following discourse. Otherwise, they would risk giving rise to the sense described by Schwarz (2019: 85) that "crucial and important information has been introduced in an inappropriate, underhanded way". Correspondingly, we might expect a less straightforward and cooperative speaker to be able to sneak controversial information into the discourse without it being questioned, simply by couching that information in terms of presupposition rather than assertion. This assumes that what is paramount for the addressability of the information is its status as presupposed or not – that if material is presupposed, it will automatically be less questionable and addressable than if it had been asserted.

An alternative viewpoint is argued by Simons et al. (2010), who stress the importance of **(not-) at-issueness** in understanding presupposition projection. On their account, the crucial distinction is not that between presupposed and asserted content; rather, it is the distinction between material that is at-issue and that which is not-at-issue, where at-issueness is understood relative to the Question Under Discussion (QUD) in the sense of Roberts (1996). The crucial feature in determining at-issueness is whether the utterance addresses the QUD, which is defined as the accepted question for the interlocutors at that moment – that is, the question for which the interlocutors are presently committed to finding the answer.

As a generalisation, presupposed content tends not to be at-issue, for the obvious reason that material that is already part of the common ground isn't usually a good candidate for settling any open questions. However, in principle, novel presupposed content (for instance, where a speaker expects to exploit accommodation) can be at-issue, as a speaker could use it to answer the QUD. Consider the exchange (10)-(11).

Have you ever worked in Berlin? (10)

I quit my job at the Humboldt University last year. (11)

Taking (10) at face value as the QUD, (11) answers indirectly by (formally) presupposing that the speaker had a job in Berlin. However, this material is clearly at-issue, as it does indeed answer the QUD, which the non-presupposed

content (that the speaker doesn't currently work at the Humboldt University) does not.

In a similar spirit, there are various politeness formulae that can be used to introduce novel content but which do so in a way that is formally presuppositional, as in (12).

Miss Otis regrets she's unable to lunch today.   (12)

Uttered by a waiter to someone sitting in a restaurant awaiting their lunch companion (as in the Cole Porter song), the main contribution of (12) is to convey that the person in question will not be attending. Although there is no explicit QUD, the implicit QUD seems more likely to concern whether Miss Otis will attend than whether Miss Otis regrets anything. Hence, the presupposed content of (12) appears to be at-issue. In cases such as (11) and (12), we could hardly say that the speaker is being "inappropriate" or "underhanded" in the way they introduce new content into the discourse, even though they are doing so via clearly presuppositional means, from a formal perspective. Yet it is still possible that using presupposition in this way has consequences for the addressability of the new content in the subsequent discourse, depending on the extent to which it is at-issueness rather than presuppositionality than determines addressability.

We can distinguish two positions on this question that represent the ends of a spectrum of possibilities. If addressability is purely a matter of at-issueness (as the name rather suggests), then whether material was formally asserted or presupposed should be irrelevant to how and whether a subsequent speaker can take it up as a topic of discussion. Note that in these cases asserted content is also present in the discourse turn, and this might still interfere with a subsequent speaker's attempts to address the presupposed content, potentially requiring them to use a "Hey, wait a minute"-style circumlocution. At the other end of the spectrum, addressability might be purely a matter of the status of the material in terms of whether it is asserted or presupposed, with at-issueness being moot as far as subsequent discourse turns are concerned.

In this paper, we tackle the issue of addressability by presenting an experiment designed to tease apart the contributions of these two factors, at-issueness and presuppositional status. We do so by constructing a scenario in which a (confederate) speaker presents material that is at-issue but which is sometimes couched as assertions and sometimes as presuppositions, and in which the participant is encouraged to identify and rebut the falsehoods in the confederate's utterances. In this way we explore, firstly, whether the participant is equally able and inclined to challenge erroneous material when presented as assertion or presupposition (that is, whether the confederate is able to insert controversial material into the discourse by making it presuppositional, controlling for at-issueness), and secondly, whether the status of the challenged material as assertion or presupposition influences its addressability, as measured by the directness with which the participant is able to challenge it, when they choose to do so.

3   Experiment

In this experiment, participants role-played a dialogue with a confederate. The scenario was a police interrogation, in which the participant played the role of the detective and the confederate played the role of a suspect in a robbery. Participants were instructed to ask the suspect specific questions and identify and challenge lies in the suspect's responses. The aim was to investigate whether participants would respond the same way to false information given in the form of presupposition and in the form of assertion, controlling for QUD by ensuring that the same question was asked and the same answer provided in each case.

3.1   Materials and design

Participants were provided with instructions which included the cover story and a list of 19 questions which they were instructed to ask in sequence. Eight of these questions were target items in which the confederate's response contained false content, packaged either in the form of an assertion (four items) or a presupposition (four items), see Appendix A for the full set of items. Participants were randomly allocated to one of two lists of experimental items, which differed only in how the confederate was instructed to respond to these critical items, e.g. the first question was responded to with an asserted falsehood in version 1 and with a presupposed falsehood in version 2, and so on.

The presupposition triggers used represented a wide range of trigger types (stop, know, regret, discover, return, only, to be annoyed, to be happy), reflecting the variability among triggers documented by much prior research (see Schwarz 2019 for recent discussion), which was not a focus of this study. The confederate's responses to the other 11 filler questions were the same (asserted truths) in both versions of the task. The critical items are included, in both versions, in Appendix A.

Corresponding to each question, the participant had also been provided with a note describing the information currently known to the police, and instructed to challenge any statement that contradicted that information. The confederate's initial responses were scripted; she was instructed to admit the 'truth' if challenged on any point. Participants' responses were audio-recorded and later transcribed and analysed.

3.2 Participants

50 participants (aged 18-39) of which 46% were female were recruited in Edinburgh and paid for their participation. The only criterion was that they should self-identify as native speakers of English.

3.3 Results

Across the critical items, participants objected to the false content in 89% of items in which it was asserted and in 79% of items in which it was presupposed. We conducted a mixed-effects logistic regression, postulating a main effect of content type, to examine whether this difference was significant. The model with maximal random effects structure failed to converge and iterative reduction in RE structure yielded a converging model with only by-subject and by-item random intercepts. The model disclosed a significant effect of content type ($\beta = 0.752$, SE = 0.297, p = 0.012 by likelihood ratio test), indicating that false asserted content was objected to more often than false presupposed content.

For the cases in which participants did object to the content, the length of their response was measured in two ways: by the number of words uttered, and by the number of hesitations or verbal dysfluencies identified. The former measure was designed directly to investigate the claim that presupposed material would be less addressable in the sense of a speaker requiring more words to object to it (as exemplified by the "Hey, wait a minute" test). The latter measure aimed to explore whether there was evidence of greater cognitive load in cases where speakers were obliged to respond to less addressable content, building on work by Loy, Rohde and Corley (2018) showing an increase in dysfluencies in scenarios involving deception.

We conducted two mixed-effects linear regressions, taking as dependent variables the number of words and number of dysfluencies produced, and postulating again a main effect of content type in each case. A model with maximal random effects structure was used to predict the number of words uttered, and a model with by-subject random slopes and intercepts was conducted to predict the number of dysfluencies. There were no significant differences in number of words uttered ($\beta = 0.96$, SE = 1.117, p = 0.367 by likelihood ratio test) or number of hesitations/ verbal dysfluencies between conditions ($\beta = -0.037$, SE = 0.086, p = 0.66 by likelihood ratio test), suggesting that no extra linguistic effort was required to object to presupposed content.

4 Discussion

Our experiment was designed to investigate whether the presentation of controversial content as presupposition rather than assertion influenced how it was responded to, when controlling for at-issueness with respect to the QUD. The results suggested that, across the board, there was indeed a dispreference for objecting to presupposed content – that is, from a speaker's perspective, it is possible to forestall objections to false material to a certain extent by making it presuppositional, even in a context in which such objections are socially sanctioned. However, there was little evidence that speakers had difficulty in formulating objections to presupposed content, when they did choose to engage with it: there was no significant difference between responses to presupposed and asserted content with respect to utterance length and dysfluencies.

With respect to the first result, we must acknowledge that participants were generally effective in identifying and challenging falsehoods throughout the experiment, and that the majority of false presuppositions did elicit challenges. However, some QUD-addressing false presuppositions were nevertheless allowed to stand, suggesting that presuppositions do tend to be

less addressable than assertions per se. One possible explanation for this would be that the presuppositional materials are more complex than their purely assertional counterparts, because they contain asserted content that does not transparently address the QUD as well as presuppositional content that does.

One way of testing such an explanation in future work would be to look for systematic differences between participants' behaviour with different presupposition triggers, because triggers vary in the kind of relationship that they encode between the presupposition and assertion, as discussed by Sudo (2012) and Klinedinst (2012). Compare the exchanges (13)-(14) and (15)-(16).

Did Mary argue with her boss? (13)

    She regrets doing so. (14)

Did John use to smoke? (15)

    He quit recently. (16)

With the trigger *regret*, as in (14), the presupposition (that Mary argued with her boss) answers the QUD directly, but the assertion (that Mary regrets arguing with her boss) entails the presupposition and hence also answers the QUD. With the trigger *quit*, as in (16), the presupposition (that John used to smoke) answers the QUD, but what is sometimes taken to be the assertion (that he does not currently smoke) does not answer the QUD.

Consequently, in a *regret*-type case, one could argue that the presupposed content is not effectively 'concealed' as it is also entailed by the assertion, and therefore we would expect a high proportion of challenges to false presuppositions in such a case. In a *quit*-type case, the presupposed content is independent of the assertion and therefore potentially less salient, and less addressable. However, our experiment does not license us to explore this question in detail as each trigger occurred in just one sentence, risking confounds with item effects.

With respect to the participants' behaviour in cases where they challenge false material, our results appear to support the at-issueness account of Simons et al. (2010). There is no indication that participants felt obliged to use circumlocutions in order to challenge presupposed but at-issue

content: these materials, at least in this context, did not appear to elicit "Hey, wait a minute"-style behaviour from our participants. This may be illustrated by taking a closer look at participants' objections towards both false presupposed (17)-(21) and false asserted content (22)-(26).[2]

Condition: Presupposed content

Q: Have you held any other positions? (17)

A: I stopped working for the national gallery in Russia in 2017. (18)

P1: Was that not in Shenzhen China? (19)

P2: That's not true. (20)

P3: Okay um how long were you in Russia for? (21)

Condition: Asserted content

P: Have you held any other positions? (22)

S: I used to work for the national gallery in Russia until 2017. (23)

P4: Russia or Shenzhen in China? (24)

P5: That's not true you were working in China. (25)

P6: Why did you leave? (26)

In both conditions, participants object rather directly to the falsehood of the suspect's claim to have worked in Russia: compare (19)-(20) with (24)-(25). Hence, the "Hey, wait a minute" test may be mainly sensitive to the informational status rather than the presuppositional status of content. Furthermore, from a qualitative point of view, similar objection strategies were used independently of the content's presuppositional status: participants objected by asking follow-up questions that addressed the false content (19)/(24), by raising the issue that the suspect lied (20)/(25), or by asking indirect follow-up questions (22)/(26).

Taking both results into account, it seems that in order to predict whether content is available for subsequent discussion warranting discourse coherence one has to account for both the presuppositional status and the at-issueness of content. The approach of Abrusán (2011), further developed in Abrusán (2016), reconciles these two aspects by claiming that although hearers pay attention to certain aspects of meaning by default, their attention may be shifted by contextual cues.

---

[2] The following dialogue examples begin with the experimental item, i.e. the question-answer pair, see (17)-(18) and (22)-(23), and are followed by objections of specific participants, named P1, P2, P3 etc., see (19)-(21).

Despite being developed for predicting presupposition projection this account seems applicable to our scenario: presupposed content is accommodated by default, but as soon as the hearer's attention is broadened by contextual cues, the content is available for further discussion to the same extent as asserted content. As regards the potential differences between presupposition triggers, Abrusán (2016) claims that the complements of factives like *know* can be brought to the focus of attention more easily than the complements of emotive factives like *regret,* since in the latter case, hearers direct their attention towards the attitude holder instead of the complement's content. In accordance with our reasoning above, the pre-state implicature of the presupposition triggered by *stop* is claimed to be focused even less easily, 'concealing' the presupposed content more effectively. But again, differences between presupposition triggers remain to be investigated in future work.

Clearly we should exercise caution about interpreting these results, in that the use of this novel paradigm gives rise to questions about the naturalness of the participants' elicited behaviour. The kind of objections elicited by the false statements in this paradigm might be atypical for at least two (contradictory) reasons. Firstly, our participants may have been unusually willing to flatly contradict false presuppositions because they were aware that the scenario placed them (playing the police officer) in a position of power relative to the confederate (playing the suspect) and entitled them to change the subject and discuss any issue that they wished to, rather than adhere to the topics foregrounded by the confederate. Secondly, our participants may have been uncomfortable at the task of repeatedly contradicting or challenging their interlocutor and started using circumlocutions and unnecessary politeness formulae when questioning assertions as well as presuppositions. On a similar note, the interrogation setting may have encouraged our participants to actually back up their objections, with concrete evidence which led to longer objections overall, see (27)-(32).

Condition: Presupposed content

Q: Have you held any other positions? (27)

A: I stopped working for the national gallery in Russia in 2017. (28)

P7: That's interesting I have here in my document that you were an employee at the national gallery in Shenzhen in China. (29)

Condition: Asserted content

Q: Have you held any other positions? (30)

A: I used to work for the national gallery in Russia until 2017. (31)

P8: That's interesting cause of right now we have/ at least on my record it says that you were at the national gallery in Shenzhen in China. (32)

Nevertheless, the potential advantage of this paradigm is that it creates a scenario in which repeated false statements are made, each for a clearly-motivated reason, and in which these falsehoods can be challenged naturalistically without violating politeness norms.

5 Conclusion

The experimental results presented in this paper suggest that, when material is at-issue, it can be challenged directly by a subsequent speaker whether it is formally asserted or presupposed. However, expressing at-issue material through presupposition rather than assertion appears to have the effect of reducing the frequency of such challenges. These findings are consistent with a view on which speakers are able to manipulate their interlocutors' ability to address discourse content to some extent through the formal apparatus of presupposition, but where material that is relevant to the Question Under Discussion is usually available for subsequent challenge to quite a pronounced extent. Thus, a speaker-hearer model that predicts what material is eligible to discuss in the subsequent dialogue must account both for interlocutors' expectations about information packaging as well as about the overall discourse topic.

References

Márta Abrusán. 2011. Predicting the presuppositions of soft triggers. *Linguistics & Philosophy*, 34:491-535.

Márta Abrusán. 2016. Presupposition cancellation: Explaining the 'soft-hard' trigger distinction. *Natural Language Semantics*, 24:165-202.

Kai von Fintel. 2008. What is presupposition accommodation, again? *Philosophical Perspectives*, 22(1):137–170.

Michael Glanzberg. 2005. Presuppositions, truth values and expressing propositions. In Gerhard Preyer and Georg Peter (eds.), *Contextualism in Philosophy: Knowledge, Meaning, and Truth*. Oxford University Press, Oxford, pages 349–396.

Nathan Klinedinst. 2012. THCSP. Ms., UCL.

David Lewis. 1979. Scorekeeping in a language game. In Rainer Bäuerle, Urs Egli and Arnim von Stechow (eds.), *Semantics from Different Points of View*. Springer, Berlin, pages 172–187.

Jia Loy, Hannah Rohde, and Martin Corley. 2018. Cues to lying may be deceptive: speaker and listener behaviour in an interactive game of deception. *Journal of Cognition*, 1(1):42.

Craige Roberts. 1996. Information structure in discourse: Towards an integrated formal theory of pragmatics. In Jae-Hak Yoon and Andreas Kathol (eds.), *Ohio State University Working Papers in Linguistics, Volume 49*. Ohio State University Publications, Columbus, OH, pages 91–136.

Florian Schwarz. 2019. Presuppositions, projection and accommodation. In Chris Cummins and Napoleon Katsos (eds.), *Oxford Handbook of Experimental Semantics and Pragmatics*. Oxford University Press, Oxford, pages 83–113.

Benny Shanon. 1976. On the two kinds of presuppositions in natural language. *Foundations of Language*, 14:247–249.

Mandy Simons, Judith Tonhauser, David Beaver, and Craige Roberts. 2010. What projects and why. In Nan Li and David Lutz (eds.), *Proceedings of the 20th Conference on Semantics and Linguistic Theory*. CLC Publications, Ithaca, NY, pages 309–327.

Yasutada Sudo. 2012. On the semantics of phi features on pronouns. Massachusetts Institute of Technology PhD thesis, Cambridge, MA.

.

Appendix A. Experimental Items

Trigger	Question	Condition: Presupposed content	Condition: Asserted content
stop	Have you held any other positions?	I stopped working for the national gallery in Russia in 2017.	I used to work for the national gallery in Russia until 2017.
know	When did John Smith first approach you in 2018?	I know that I first saw him at a gallery opening in November.	I first saw him at a gallery opening in November.
to be happy	We are interested in what happened on the 2nd of September. What did you do on that day?	I was happy that I had time to finish a journal article at home.	I had time to finish a journal article at home.
discover	Now, we would like to know more about the forth of September when you went to the locksmith. What happened there?	I discovered that the key to my flat needed replacing.	The key to my flat needed replacing.
regret	How was the race on the 17th of October?	I regret that I didn't go to that race.	I didn't go to that race.
to be annoyed	Did you meet John Smith on that day?	I was annoyed that I bumped into him unexpectedly.	I bumped into him unexpectedly.
only	Did you stay at the race-course after going to the bar?	I only went to the bathroom at four pm.	I went to the bathroom at four pm.
return	We would like to know more about the 17th of October. What else did you do that day?	I returned to my office.	Before and after the race I was at the office.