

Local Accommodation is Also Backgrounded¹

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Abstract. Two generally agreed upon characteristics of presuppositions are projection and backgroundedness. Yet, presuppositions sometimes fail to project. To derive the necessary local interpretations, standard semantic local accommodation accounts posit an operation that, inside the scope of an embedding operator, turns content lexically marked as presupposed into non-backgrounded content and conjoins it with the clause’s entailed content (Heim, 1983). Such accounts, as well as syntactic operator accounts descended from them (Beaver and Krahmer, 2001), predict that locally accommodated presuppositions differ from projecting presuppositions in lacking not just projectivity, but also the second basic presuppositional property of backgroundedness. Recent pragmatic accounts arrive at a parallel prediction via their claim that all and only backgrounded material projects (Simons et al., 2010; Tonhauser et al., 2018). To date, though, this prediction, that non-projecting presuppositional content is also not backgrounded, has not been systematically tested, perhaps due to challenges in testing embedded material for backgroundedness directly. Using reduced cognitive salience as a proxy for presuppositional backgroundedness in a picture-matching task (Schwarz, 2016), we test indirectly for differences in backgroundedness among the locally accommodated presupposition of *also*, its explicit, non-backgrounded conjunction paraphrase as posited by semantic/syntactic accounts, and equivalent non-presuppositional elisions. Standard local accommodation accounts predict equivalence among these three constructions. However, in two experiments, we find, to the contrary, that locally interpreted content contributed by *also* reflects greater presuppositional backgroundedness than equivalent explicit entailed content and, to a lesser degree, than more surface-similar elisions. Our task elicits a similar pattern with examples including global, rather than local, accommodation, supporting parallel backgroundedness across these cases. We briefly discuss the theoretical implications of these findings in general terms.

Keywords: presupposition, local accommodation, backgrounding, psycholinguistics, projection.

1. Introduction

Two generally agreed upon characteristics of presuppositions are projection and backgroundedness. For instance, in (1), ‘I have a dog,’ the presupposition triggered by the possessive *my*, can project to the global context:

- (1) It’s not true that I’m obsessed with my dog!

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If the fact that the speaker has a dog is not previously entailed by the context of (1), cooperative hearers may add it, by global accommodation, as part of the background information against which the asserted information that the speaker is obsessed with her dog will be evaluated (Lewis, 1979). However, there are also cases in which the content of felicitous presupposition triggers cannot project to the global context. In (2), projection is blocked by the first clause, leaving the presupposition that the speaker has a dog to be accommodated only locally:

(2) I don't have a dog, so it's not true that I'm obsessed with my dog.

While it is widely acknowledged that presuppositions sometimes fail to project, as in (2), there has been little discussion about whether these non-projecting presuppositions also fail to be backgrounded. This is the question we address in the present study. The usual default answer to this question, though often only implicitly assumed, is no: locally accommodated content is not backgrounded. Rather, it shares the discourse status of ordinary entailed content. The presumed non-backgroundedness of locally accommodated material has been represented in a few different ways. Standard dynamic semantic accounts of local accommodation, following Heim (1983), posit an operation that, inside the scope of an embedding operator, turns content lexically marked as presupposed into non-backgrounded content and conjoins it with the clause's entailed content. In such an account, the meaning of (2) can be accurately paraphrased as in (3a). Taking p to stand for *I'm obsessed with my dog*, and q for *I have a dog*, (3b) informally illustrates the global projection interpretation of the second clause as represented in dynamic semantics (negation removes those worlds in context c where the negated proposition holds). Given the preceding clause in (2), no c -world is such that q holds, so the definedness condition is not met. (3c) shows the locally accommodated variant, where q is added as a further conjunct inside of the scope of negation along with p .

- (3) a. I don't have a dog, so it's not true that [*I have a dog* and I'm obsessed with my dog].
b. $c-(c+p)$, defined iff q holds in all c -worlds
c. $c-((c+q)+p)$

Subsequent syntactic variants of this type of account accomplish the same effect of turning embedded presuppositions into regular entailed content by inserting an assertoric A-operator at the appropriate embedded level (Beaver and Krahmer, 2001):

(4) I don't have a dog, so it's not true that [A [I'm obsessed with my dog]].

Thus, both standard semantic and syntactic accounts predict that locally accommodated presuppositions differ from projecting presuppositions precisely in their lack of the presuppositional property of backgroundedness.

Recent pragmatic accounts arrive at a parallel prediction, albeit from an entirely different direction, and without endorsing the idea that local accommodation is in play. Such accounts aim to derive projection patterns from general pragmatic properties without assuming lexically encoded presuppositions, at least not in general. Central to these accounts is the general claim that all and only backgrounded (or, equivalently, not-at-issue) material projects. From this, it

Local Accommodation Is Also Backgrounded

follows that non-projecting presuppositions are expected, in their view as well, to be non-backgrounded (Simons et al., 2010; Tonhauser et al., 2018).

To date, though, the prediction (or, in some cases, implicit assumption) that locally accommodated material is not backgrounded has not been systematically tested. One reason that researchers may not have undertaken such testing is the relative success of the accounts above: The conjunctive translation in (3a) accounts well for the truth-conditional meaning of sentences like (2), independent of whether or not they correctly represent the effects of the discourse status of the presupposed material, which may be subtle. Another factor working against those who wish to adduce experimental evidence bearing on the discourse status of locally accommodated material is that directly testing material embedded under operators for backgroundedness presents considerable challenges. One cannot, for instance, use conversational continuations, which target asserted content (Simons, 2019), to test whether a locally accommodated presupposition such as ‘I have a dog’ in (2) is part of the asserted information or backgrounded. Such a test works as expected when the possessive presupposition is in a position to project globally, as in (5). Both of B’s rejoinders in (5) would be taken as targeting the asserted proposition that the speaker is obsessed with their dog and not the possessive presupposition ‘I have a dog,’ indicating, as expected, that the presupposition is backgrounded.

(5) A: I’m obsessed with my dog.

B: Does your mother know that?

B: That’s weird!

However, when we apply the continuation test to the local accommodation context in (2), B’s responses target either the first clause (*I don’t have a dog.*) or the second (matrix) clause (*It’s not true that I’m obsessed with my dog.*). Consequently, the exchanges in (6) give us no opportunity to test, within a local accommodation context, the backgroundedness of the presupposition of *my dog* against that of the entailed content of the embedded clause in which it occurs.

(6) A: I don’t have a dog, so it’s not true that I’m obsessed with my dog.

B: Does your mother know that?

B: That’s weird!

These challenges notwithstanding, determining whether local accommodation is associated with the backgrounding that characterizes globally interpreted presuppositions could shed light on the nature of presupposition in general and on the relation between local and global contexts and (non)-projection and backgroundedness in particular. In order to circumvent the challenges inherent in testing directly, we developed an experimental design to test the backgrounded status of locally accommodated material indirectly.

We took as our starting point the approaches in Schwarz (2016) and Bacovcin et al. (2018), both of which found evidence for reduced cognitive salience of presupposed information in picture-matching tasks and interpreted this as providing a proxy measure for

backgroundedness. Schwarz (2016) offered novel experimental support for the position that the existence condition of definite descriptions is presuppositional and backgrounded: Participants were shown pictures related to accompanying sentences and asked to respond whether each sentence was True or False in the context of the visual stimuli. In some cases, the presupposition of a definite description in the sentence was not met in the picture, and in others the asserted content of the same sentence was falsified. Slower response times were found for responding ‘false’ when the presupposition was unmet in the picture than in cases where the asserted content was not supported visually. A parallel manipulation with indefinite descriptions provided crucial control conditions. In the condition from Bacovcin et al. (2018) most relevant for our purposes, participants were presented sentences such as “Henry came to town for the first time on Tuesday. On Wednesday, he went to the aquarium again.”, and then had to choose between two pictures (presented as calendar strips with iconic representations of activities) that only partly matched the overall information conveyed. One picture choice was consistent with the asserted content (that Henry went to the aquarium on Wednesday), but inconsistent with the presupposition (that he went to the aquarium on Tuesday); the other was inconsistent with the asserted content, with the presupposition left open. The overwhelming majority of participants chose the former, where the assertion was met, but the presupposition was not, suggesting that asserted material is most salient and important, whereas the presupposition is secondary.

Our design adapts the general idea behind these studies to apply it to our central question. In Experiment 1, we find that, contrary to the standard view, locally interpreted content contributed by the presupposition trigger *also* reflects greater presuppositional backgroundedness than equivalent explicit entailed content and, to a lesser degree, than more surface-similar elisions. Furthermore, the results from Experiment 2 confirm that our task elicits a similar pattern with examples including global, rather than local, accommodation, supporting the idea that parallel notions of backgroundedness are in play across these cases.

2. Experiment 1

2.1 General Design

Building on the general idea of testing whether visual representations are seen as matching a given sentential description, even though they do not accurately depict all of the information expressed by the sentence, our design aims to test the backgroundedness of locally accommodated presuppositions. The explicit, non-backgrounded conjunction paraphrases for such presuppositions posited by semantic/syntactic accounts following Heim (1983), as well as equivalent non-presuppositional elisions that more closely match local accommodation surface forms, serve as key points of comparison. They encode the same truth-conditional meaning as the tested presupposition, but the information that is expressed as a presupposition in the critical condition is introduced as straightforwardly and uncontroversially asserted content in these two controls.

All else being equal, local accommodation accounts that do not assume the relevant content to have any special backgrounded status align with the Null Hypothesis that the different ways of introducing the information do not affect the extent to which partially matching pictures are

Local Accommodation Is Also Backgrounded

seen as accurate depictions of the provided description. This is because such traditional local accommodation accounts assume that the information expressed has equivalent, non-backgrounded discourse status across all three constructions. In contrast, if locally accommodated content is backgrounded, we expect the failure of the picture to match the content introduced by the presupposition trigger to be less impactful than a similar failure when the same content is introduced as part of standard asserted content.

Our presupposition trigger of choice for purposes of experiment implementation was *also*. While in the theoretical literature, the notion that *also* does not allow local accommodation or at least strongly resists it is common (e.g., Abusch, 2010), prior experimental work has clearly established that such interpretations are perfectly possible (e.g., Jayez et al., 2015; Grubic and Wierzba, 2019). One big advantage of *also* for our purposes is the relatively clear conceptual separation between presupposed and asserted content. This is crucial for implementation purposes, given that our sought-after measure of cognitive salience in terms of a participant's willingness to accept illustrations that are missing the presupposed information requires both experimenters and participants to be able to distinguish in pictorial representations what corresponds to the explicit entailed content and what to the presupposed content. Only with this separation will experimenters be able to solicit judgments from participants that hinge upon whether one type of content, namely the presupposed part, is missing from an illustration. For most presupposition triggers, what is presupposed is too closely related to the accompanying entailed information for participants to be able to do this, at least in any straightforward way that we were able to come up with. It is very difficult, for instance, for experimenters to create and for participants to distinguish pictures of someone both having a dog (presupposed information in the embedded clause of (1)) and obsessing over a dog (entailed information in the embedded clause of (1)) from those of someone merely obsessing over a dog (entailed information only). Asserted and presupposed content for definites and factives are similarly closely related; furthermore, it is often theoretically assumed that in these cases, the content introduced as a presupposition is simultaneously present in, and entailed by, the asserted content. Consequently, *also* lent itself as a test case for our purposes, since its presupposition can be illustrated entirely independently of what is asserted in its sentence.

Another choice point for implementation purposes concerned the embedding expressions relative to which the presupposition of *also* could be interpreted locally. We chose *if*-clauses, i.e., the antecedent of conditionals, as our embedding environment because other possible embedding operators, such as negation and questions, often give rise to confounding scope ambiguities. Finally, we wanted to prevent participants, as much as possible, from simply ignoring the presuppositions triggered in our examples. This is a potential concern due to prior claims that at least in some contexts of use, presuppositional content can be ignored (Domaneschi et al., 2014; Tiemann, 2014; Tiemann et al., 2015), although Bacovcin et al. (2018) argue against that interpretation of prior findings. Regardless, and to err on the side of caution, we made sure that the final consequent clauses of our items logically require the presupposition triggered in the second clause to hold (see section 2.2 below).

2.2 Materials & Predictions

In light of the general considerations above, we aim to measure the relative cognitive accessibility of exactly the same information presented via local accommodation of the

presupposition triggered by *also*, as illustrated in the sample item text in (7), its conjunctive paraphrase, illustrated in (8), and a non-presuppositional elision, illustrated in (9).

(7) This could be wrong, but I heard that Paul might have ice cream; if **he also has chocolate syrup**, we could have sundaes for dessert. [ALSO condition]

(8) This could be wrong, but I heard that Paul might have ice cream; if **he has ice cream and he has chocolate syrup**, we could have sundaes for dessert. [CONJ condition]

(9) This could be wrong, but I heard that Paul might have ice cream; if **he does, and he has chocolate syrup**, we could have sundaes for dessert. [DOES condition]

The piece of information of central interest, which is presupposed in the ALSO condition in (7), is that Paul has ice cream. A global interpretation of this presupposition is in conflict with the preceding context, where the speaker explicitly conveys their uncertainty with regards to whether or not this holds; this constitutes a version of the ‘Explicit Ignorance Contexts’ of Simons (2001). Consequently, the presupposition introduced by *also* can be interpreted only locally, inside the *if*-clause, truth-conditionally conveying exactly what the standard paraphrase utilized in the CONJ condition in (8) conveys. Note that the consequent *we could have sundaes for dessert* was chosen so as to maximize the likelihood that participants indeed take the presuppositional content that Paul has ice cream into account across all conditions, rather than ignore it, as Paul can serve sundaes for dessert only if he has ice cream.

Another potential issue is that the equivalence between the first two conditions (ALSO and CONJ) predicted by accounts that assume local accommodation is not backgrounded holds only if all else is equal. But one obvious difference between (7) and (8) is that the latter contains the explicit additional wording “he has ice cream and.” While the truth-functional content expressed in (7) and (8) is clearly the same, the mere presence only in (8) of the relevant words in the portion of the sentence of interest – the antecedent of the conditional – could well give rise to a difference in the salience of the corresponding information in (7) as compared to (8). Such an effect would constitute a substantive confound for answering our main question of interest, and also potentially be of general theoretical interest as a comparison between explicit and non-explicit content. The DOES condition in (9) was included in order to test the effect of explicitness directly:² The *does* elision used in (9) shares the implicitness and anaphoricity of *also*, but lacks *also*’s status as a presupposition trigger. Thus, if we were to find higher rates of acceptance for (7) (ALSO) than for (8) (CONJ) of illustrations that do not include a representation of ‘Paul has ice cream,’ that could be due to the implicitness confound. However, if we also find higher rates for (7) (ALSO) than for (9) (DOES) of acceptance of illustrations that do not represent the content presupposed in the ALSO condition, such a difference is attributable to *also*’s presuppositional nature, beyond the implicitness in play in both (7) and (9).

² We thank Jeremy Zehr for pointing out the importance of including such a condition.

Local Accommodation Is Also Backgrounded

In order to guide participants towards giving the relevant type of judgment, we provided them with an initial screen of instructions, which are shown in the format presented to the participants in (10).³

(10) Instructions

Please assume that the remark you will read on the next page was produced by our friend Francine in casual conversation. Francine's remark contains a description of a hypothetical situation, which is **highlighted in green**, and it is followed by an illustration. Please read the whole of Francine's remark, and then click on the answer you choose for each of the three questions that follow it. The questions will be revealed in order beneath Francine's remark; after you answer one question, the next will appear. Please try to answer each question the best you can even if you are not completely confident about your answer.

Click to Continue

Subsequently, two new screens were shown, with a written version of an utterance in the form of one of the conditions (7) – (9), along with a question and (for Question A) a picture.

(11) Question A:

FRANCINE:

This could be wrong, but I heard that Paul might have ice cream; if **he also has chocolate syrup**, we could have sundaes for dessert.



QUESTION:

*Do you think that this illustration accurately depicts Francine's description of the hypothetical situation **highlighted** in green?*

Yes

No

(12) Question B:

³ The third question mentioned in the Instructions in (10) aimed to provide another control. It is not discussed here, as it did not yield clearly interpretable results.

FRANCINE:

This could be wrong, but I heard that Paul might have ice cream; if **he also has chocolate syrup**, we could have sundaes for dessert.

QUESTION:

Now taking into account **the entirety** of what Francine says in her remark, does Paul definitely, **in reality**, have ice cream?

Yes

No

Question A in (11) requires participants to judge whether the provided picture accurately depicts the description in the highlighted part of the relevant utterance. In the critical ALSO condition from (7), illustrated in (11), *also* in the antecedent of the conditional introduces the presuppositional content that Paul has ice cream, but projection is blocked by the explicit ignorance context in the first clause. The picture showing Paul holding a bottle of chocolate syrup represents the non-presuppositionally introduced information that Paul has chocolate syrup, but not the presuppositional content that he has ice cream. The two control conditions in (8) and (9) introduce ‘Paul has ice cream’ as non-presuppositional content: (8) is the standard accounts’ conjunctive paraphrase of the local interpretation, differing from (7) in explicitly mentioning Paul’s having ice cream. (9) conveys ‘Paul has ice cream’ implicitly but non-presuppositionally, using ellipsis.

Building on the linking assumption based on prior work that presuppositionally backgrounded status corresponds to a decreased level of cognitive salience and importance in picture evaluation, we have the following expectation about responses to Question A: We expect participants to answer YES to Question A in the ALSO condition if the presuppositional content that Paul has ice cream is sufficiently non-salient to them, due to its backgroundedness, that, in their judgment, it need not be represented in an illustration of the highlighted clause. Thus, we are able to gauge indirectly, from participants’ rate of YES answers to Question A, whether Paul’s having ice cream is more or less backgrounded for them in each condition.

Question B in (12) was included to provide a check on whether participants had been attentive to the intentionally emphatic initial explicit ignorance contexts and had, consequently, gotten the intended local interpretation of *also*: participants who answer NO to Question B show that they recognize that (7) – (9) in their entirety do not entail or implicate that Paul definitely, in reality, has ice cream. Thereby, for (7) in particular, with its presupposition trigger *also*, they indicate that they have not globally accommodated the presupposition triggered by *also* that

Local Accommodation Is Also Backgrounded

Paul has ice cream. Participants who answer YES to Question B, in contrast, can safely be taken not to have properly digested the overall meaning of the presented text. It is thus hard to interpret their response to Question A, and we therefore exclude them from the relevant analyses.

But for participants who answered NO to Question B, our key prediction can be tested: If the information that Paul has ice cream is less salient in (7), where it is introduced through local accommodation, than in (8) and (9), where 'he has ice cream' is introduced as an asserted conjunct (either explicitly or via ellipsis), we expect more frequent YES answers to Question A for (7) than for (8) and (9) (with possible differences between the latter two if explicitness has an independent effect). That is, if information is less salient when introduced by a presupposition trigger than when it is introduced in an asserted conjunct, participants should be more likely to accept as accurate the pictorial representation without the ice cream when it is introduced as in (7), than as in (8) or (9).

In addition to the ice cream sundae item above, we used two further item variants to guard against effects due to accidental specifics of a particular item. The additional items are fully illustrated in (13) – (14) below, in their ALSO conditions.

(13) This could be wrong, but I heard that Diane might have the violin part for our new piece; if **she also has the flute part**, we could get together and practice the duet before the first official rehearsal.



(14) This could be wrong, but I heard that the Halls might have a son who plays soccer; if **they also have a daughter who plays soccer**, their kids could join our new co-ed soccer league.



2.3 Participants and Procedure

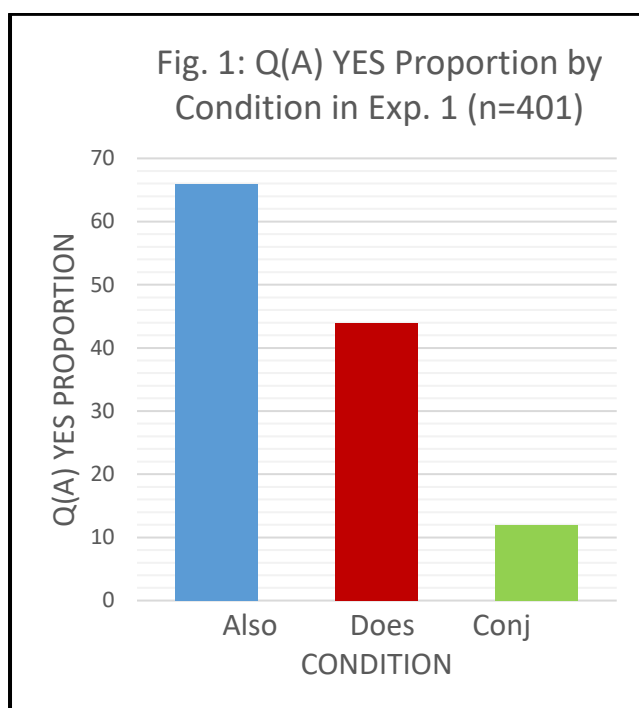
In light of the nature of the overall task, and in particular the necessary explicit check in Question B on whether or not participants had indeed adopted the appropriate local accommodation interpretation in the ALSO condition, it seemed highly likely that the first exposure to any item, along with questions A and B, would already strongly sensitize participants to the issues at stake and to the purpose of the experiment. This presented a risk that data from repeated trials could include effects of participants' strategically adjusting to perceived expectations about how they should act. We therefore decided to adopt a single-trial design, where each participant saw only a single item in one condition (with accordingly increased numbers of participants). Condition and item variants were varied randomly between subjects, and the picture was uniform across the three conditions for each of our three items variants. For example, a participant randomly assigned to the ALSO condition of the ice cream sundae variant we have illustrated here would see, in sequence, the three screens reproduced in (10), (11) and (12). For participants assigned to the CONJ or DOES conditions, screens (11) and (12) differed only in having (8) or (9) appear in place of (7).

We recruited 479 participants from the University of Pennsylvania's subject pool to participate online via the PClbex platform for course credit (Zehr and Schwarz, 2018). As noted above, we excluded from data analysis those participants who answered YES to Question (B), thus indicating that they were not working with the required local interpretation. Participants who identified themselves as non-native speakers of English were removed as well. After removal, data from 401 participants were left for purposes of analysis.

2.4 Results

The proportion of YES answers to Question A exhibited the step-wise pattern in Fig. 1, with the presuppositional ALSO (5) yielding the highest, the explicit conjunctive paraphrase CONJ (6) the lowest, and the elliptical DOES (7) in between. Statistical analysis via a simple logistic regression in R, using the *glm* function from the *stats* package, revealed these differences to be significant (DOES vs. ALSO: $\beta=.90$, $SE=.25$, $p<.001$; DOES vs. CONJ: $\beta=-1.77$, $SE=.32$, $p<.001$). The patterns were similar across the three item variants, ice cream sundaes, duet music, and co-ed soccer.

Local Accommodation Is Also Backgrounded



The increased rate of YES answers to Question A for DOES relative to CONJ reveals that elision alone, without any change in discourse status otherwise, can reduce salience in a way that affects our task. However, since we find an even higher YES-rate for Question A for ALSO than for DOES, our data confirm an independent effect of the presuppositional nature of the critical information when introduced by *also* that is independent of this elision effect. That is, we see evidence of a further significant decrease in cognitive salience which must be due to the presuppositional nature of *also*, entirely separate from the decrease in salience due to implicitness.

2.5 Discussion

The results of Experiment 1 indicate that presuppositional content exhibits effects suggesting decreased cognitive salience even when the presupposition does not project, and is locally accommodated instead. Taking this reduction in salience as an indication of backgroundedness, we find that the locally accommodated presupposition of *also* shows significant backgrounding as a result of its presuppositional status, contrary to the standard predictions of theories in the literature. In other words, a locally accommodated presupposition displays the typical presuppositional property of backgroundedness, even though it does not project.

Our design broadly adapts prior paradigms whose results arguably indicate parallel effects for presuppositions that are not locally accommodated: The successful use of similar tasks to measure presuppositional backgrounding in Schwarz (2016) and Bacovcin et al. (2018) suggests that reduced cognitive salience in a picture matching task is indeed an indicator of general presuppositional backgrounding. But we do not have a direct comparison at hand showing that the effect of backgroundedness in Experiment 1 is of the same general nature as the backgrounding for globally interpreted presuppositions. In order to strengthen the

interpretation of the results in Experiment 1, it would be helpful to demonstrate that the reduction in cognitive salience measured with our picture-matching task reflects presuppositional backgrounding in general, beyond local accommodation. To confirm that our task in particular reflects presuppositional backgrounding in non-embedded and globally interpreted clauses alike, we designed a second experiment to test items involving global rather than local accommodation.

3. Experiment 2

3.1. Design and Materials

The design and materials for Experiment 2 were the same as for Experiment 1, except that the text for each item variant was altered to allow participants to accommodate the presupposition of *also* globally, rather than locally. Thus, participants in the ice cream variant of Experiment 2 saw (15), (16), or (17) in place of Experiment 1's (7), (8), or (9), and they were asked the minimally revised Questions A and B in (18) and (19), in place of Experiment 1's critical Question A in (11) and the attention and screening Question B in (10). The accompanying picture of Paul holding chocolate syrup was unchanged from Experiment 1. The other two items variants underwent parallel changes.

(15) I called to find out whether Paul has ice cream; it turns out that **he also has chocolate syrup**, so we can have sundaes for dessert. [ALSO condition, Exp. 2]

(16) I called to find out whether Paul has ice cream; it turns out that **he has ice cream and he has chocolate syrup**, so we can have sundaes for dessert. [CONJ condition, Exp. 2]

(17) I called to find out whether Paul has ice cream; it turns out that **he does, and he has chocolate syrup**, so we can have sundaes for dessert. [DOES condition, Exp. 2]

(18) **Question A:**

Do you think that this illustration accurately depicts Francine's description of the situation **highlighted** in green?

(19) **Question B:**

Now taking into account **the entirety** of what Francine says in her remark, does Paul definitely have ice cream?

Assuming the backgroundedness in play across the local and global accommodation variants is of the same type and associated with the same reflexes in measures of cognitive salience, we predict effects in Experiment 2 to be broadly parallel to those in Experiment 1. In particular, we anticipate a stepwise pattern of ALSO, DOES and CONJ in Experiment 2 similar to that in Experiment 1. It is possible, of course, that the changes made to Experiment 1's local accommodation examples ((7) – (9)) in order to create the global accommodation examples for Experiment 2 ((15) – (17)) might independently alter the exact pattern of effects. One concrete possibility for this comes from related results from Experiment 2 of Goebel (2020), showing that participants find a salient antecedent for triggers like *also* more readily when the trigger is no longer embedded in an *if* clause. Our task in Exp 1 includes the trigger *also* embedded in an

Local Accommodation Is Also Backgrounded

if-clause, so Goebel's result suggests that the salience of extra-clausal material might be reduced in our ALSO condition. Since reduced cognitive salience is our proxy for backgroundedness, such a reduction in salience of potential antecedents for embedded *also* in Experiment 1 could account for some of the backgrounding effect. If that is the case, we would expect that, in the absence of *if*-clause embedding of triggers in Experiment 2, the effect of backgrounding may be attenuated, producing a smaller difference between the presuppositional and asserted conditions. Such potential differences in the extent of the effect notwithstanding, what is crucial in relation to supporting the interpretation we offered for the data in Experiment 1 is that we find an overall parallel pattern in terms of the directions of the effects.

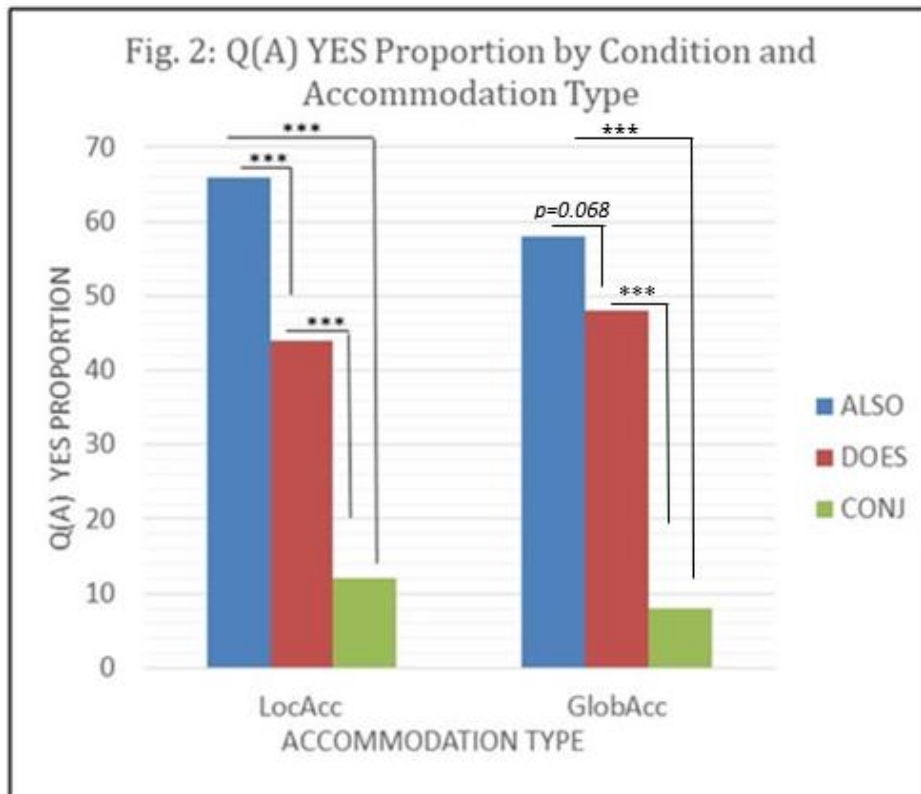
3.2 Participants & Procedure

We recruited 636 participants from the University of Pennsylvania's subject pool to participate online via the PClbex platform for course credit. As in Experiment 1, participants saw only a single trial of one utterance and picture.

As before, we excluded from data analysis those participants who identified themselves as non-native speakers of English and those who answered NO to Question (B) in (19). In the context of the global accommodation items used, a NO answer to Question B indicated that the participant was not working with the required global interpretation. After removal, we were left with data from 452 participants.

3.3 Results

The results of Experiment 2 are displayed on the right in Fig. 2., with those for Experiment 1 repeated on the left, to facilitate comparison. As predicted, the responses to Question A in (18) in the global accommodation conditions of Experiment 2 exhibit a stepwise pattern parallel to Experiment 1's. While the difference between DOES and CONJ again reaches the level of full statistical significance ($\beta = -1.77$, $SE = .32$, $p < .001$) (p 's $< .001$), the difference between DOES and ALSO, while going in the same direction, was numerically smaller than in Experiment 1 and only marginally significant ($\beta = .42$, $SE = .23$, $p = .068$). This may be due to the easier processing and accessing of an antecedent for the unembedded *also* which, in Experiment 2, replaced the *if*-embedded *also* of Experiment 1. However, a pooled analysis of both experiments including Accommodation Type and Condition as interacting predictors found no significant interaction, consistent with an overall parallel impact of backgroundedness for local and global accommodation, as measured by our task via cognitive salience proxy.



4. Discussion and Conclusion

In our experiments, we find that the presuppositional content introduced by *also* in our stimuli in the ALSO condition is less cognitively salient than its non-presuppositional, truth-conditionally equivalent counterparts in the assertive control conditions, indicating that it is backgrounded, even when interpreted locally. Our results further indicate that such backgrounding of *also*'s presuppositional content must be lexically encoded in the entry of the presupposition trigger, as opposed to being pragmatically derived from reasoning about the content itself, since it does not emerge to the same degree when identical information is expressed by the content-equivalents of *also* in our DOES and CONJ conditions. Along the way, our experiments produce new empirical evidence that elided content is not completely equivalent to full explicit versions of the same information, but rather less salient, and in that sense more backgrounded, than corresponding full versions (though still more salient than the similarly implicit material associated with a presupposition trigger). This is consistent with similar findings reported in Simons (2019). Finally, by broadening the types of presuppositions tested in this regard, our studies contribute methodologically to the literature supporting the use of cognitive salience in a picture-matching task as a proxy for presuppositional backgroundedness.

While the discourse status of presuppositional material introduced by triggers other than *also* and under operators other than *if* needs to be investigated in future work to assess the generality of our findings, the present findings about *also* already have implications for several questions of theoretical interest. The backgrounding of *also*'s presupposition when locally accommodated, for instance, seems to be an exception to the generalization, put forward in

Local Accommodation Is Also Backgrounded

pragmatic accounts of presupposition (e.g., Simons et al., 2010; Tonhauser et al., 2018), that all and only not-at-issue or backgrounded material projects: locally accommodated *also* is backgrounded, but fails to project. More generally, our main conclusion, that local accommodation of *also* gives rise to backgrounding just as global accommodation does, suggests that local accommodation is more like the global kind than has commonly been assumed, and even explicitly argued (e.g., Krahmer and Beaver, 2001; von Stechow, 2008). This means that the backgrounded status of locally accommodated *also* presents a challenge even within more traditional accounts of local accommodation, which transform local – but not global – presuppositions into regular, non-backgrounded entailed content, either semantically, as in Heim (1983) or by means of a syntactic A operator (Krahmer and Beaver, 2001). Such representations fail, as things stand, to capture the fact that locally interpreted presuppositions are backgrounded like their globally interpreted counterparts even though they are on a par with entailed content in terms of contributing their truth-conditional content within the local embedding environment. They thus differ crucially in their discourse status from equivalent non-presuppositional and/or explicit content. Traditional accounts of local accommodation could be amended to account for the backgrounded status of locally interpreted presuppositions; indeed there have been quite a few recent proposals concerning the construction of local contexts in ways that assimilate them more to global ones, though none to date has considered explicitly the possibility that locally accommodated material shares the backgrounded status of globally accommodated material (e.g. Anvari and Blumberg, 2021; Barker, 2022; Kalomoiros, to appear; Mandelkern and Romoli, 2017; Schlenker, 2009). Our results suggest that, however the content of local contexts is derived, all accommodation should be modelled as adding information to the relevant context, global or local, in a way that retains the backgrounded discourse status that we recognize as typical of presuppositions.

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