PRAGMATIC WEAKENING
&
PRESUPPOSITION PROJECTION

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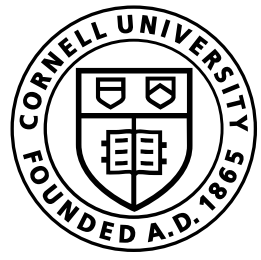

TL;DR

Presupposition Projection is messy. Mainstream theories (i.e. "satisfaction" theories) propose *weak* presuppositions that are then *pragmatically strengthened* under to-be-determined conditions. Here I explore the opposite route: presuppositions are *semantically strong* but can nevertheless be *pragmatically weakened*. When? When **not** doing so leads to "pragmatic embarrassment," such as declaring oneself to hold an inconsistent epistemic state.

Projection

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(2) a. Kipchoge has not stopped running.

b. It is possible that / Perhaps Kipchoge has stopped running.

c. Sam believes/thinks that Kipchoge has stopped running.

d. If Kipchoge has stopped running, he must be really tired.

e. Has Kipchoge stopped running?

⇝ Kipchoge was running.

The projection problem

(3) a. Kipchoge was running, but he has stopped running.

b. If Kipchoge is participating, he has stopped.

c. Either Kipchoge wasn't running, or he has stopped running.

$\not\rightsquigarrow$ Kipchoge was running.

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(4) a. If K is *tired*, he will stop running soon. $\rightsquigarrow$ *K is running*

b. If K is *participating*, he will stop running soon. $\not\rightsquigarrow$ *K is running*

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b. If K is *participating*, he will stop running soon. ↛ *K is running*

➔ Presuppositions carried by the clauses of compound sentences do not follow a single projection pattern. (Langendoen and Savin 1971)

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How to predict the presuppositions of complex sentences in a compositional fashion from the presuppositions of their parts?

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Question 1

What explains the *lack* of presupposition projection (e.g. as in (3))?

Question 2

What happens to presupposed meanings that do not project?

Two types of account

① Weak (conditional) projection + pragmatic strengthening.
(see e.g. Beaver 2001, von Fintel 2008)

② Strong (default) projection + pragmatic weakening.
(e.g. Gazdar 1979, van der Sandt 1988)

Satisfaction Theory

- Presuppositions must be satisfied in their local contexts.

- $A \odot B_p$ is uttered in c.
- The local context of B_p is $c \cup \{A\}$, so $c \cup \{A\} \vDash p$.
- $c \cup \{A\} \vDash p \equiv c \vDash A \rightarrow p$

- $A \odot B_p$ presupposes $A \rightarrow p$ instead of just p.

Karttunen (1974), Heim (1983), Beaver (2001), Schlenker (2009), Mandelkern (2016) a.o.

Problem 1 w/ ST: Proviso problem

> *ST often predicts presuppositions of the form $A \rightarrow p$, where the intuitively perceived presupposition is simply p.* (Geurts 1996, 260)

- A new material implication arises ($A \rightarrow p$), which is often too weak *as a presupposition* of $A \odot B_p$.

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In a context c where $\ulcorner$John has a sister$\urcorner \notin c$:

(5) If John has free time this afternoon, he'll pick up his sister at the airport. $\rightsquigarrow$ John has a sister

- **Prediction**: John has free time $\rightarrow$ John has a sister.

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Problem 1 w/ ST: Proviso problem

In a context c where ⌜John has a sister⌝ $\notin c$:

(5) If J has free time this afternoon, he'll pick up his sister.
   $\rightsquigarrow$ J has a sister
   $\not\rightsquigarrow$ If J has free time, J has a sister

Solution: Pragmatic strengthening. Does the presupposed content p *relate in any way* to the antecedent A?

YES: Leave the conditional presupposition $A \rightarrow p$ untouched.
NO: Strengthen $A \rightarrow p$ to p.

...where *relate in any way* has been proposed to mean:

- Does A increase the likelihood of p?
- Is A relevant to p?
- Is p more plausible if A?

Beaver (2001), Singh (2007, 2009) Schlenker (2011), Lassiter (2012), a.o.

Problem 2 w/ ST: Unexpected strengthening — Mandelkern (2016)

(6) #John was limping earlier; I don't know why. Maybe he has a stress fracture. I don't know if he plays any sports. However, if he has a stress fracture, then he'll stop running cross-country now.

- ST's prediction: *John has a stress facture* → *John ran cross-country*
  - *p* more plausible given *A*; *A* relevant to *p*, increases the likelihood of *p*…
  - strengthing of $A \rightarrow p$ to *p* is **not** expected

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- In (6) *S* seems to presuppose that *John ran cross-country* **even** after declaring she doesn't know whether John plays any sports.
- The strengthened (unconditional) presupposition *p* clashes with information already in *c*.

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- In (6) *S* seems to presuppose that *John ran cross-country* **even** after declaring she doesn't know whether John plays any sports.
- The strengthened (unconditional) presupposition *p* clashes with information already in *c*.

- It seems that (6) is infelicitous **only** because of pragmatic strengthening. But shouldn't pragmatic strengthening be (*i*) optional and (*ii*) typically conditional on not "causing any trouble"?

Problem 2 w/ ST: Unexpected strengthening — Mandelkern (2016)

(7) ✓John was limping earlier; I don't know why. Maybe he has a stress fracture. ~~I don't know if he plays any sports.~~ If he has a stress fracture, then he'll stop running cross-country now.

Today: pragmatic weakening

Question 1

What explains the *lack* of presupposition projection (e.g. as in (3))?

- Presuppositions cannot project if they "cause pragmatic embarrassment" (Beaver et al. 2021).

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Epistemic defensibility
if speaker S is ignorant about proposition ϕ, a complex sentence will not presuppose ϕ, since, if it did, the speaker would have to be assumed to hold an inconsistent epistemic state. (cf. Gazdar 1979)

General considerations

- What I'm not attempting to do (not today at least):
  - A theory of presupposition.
  - A solution to the proviso problem.
  - An all encompassing attempt at accounting for all cases of projection.

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- What I'm not attempting to do (not today at least):
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  - A solution to the proviso problem.
  - An all encompassing attempt at accounting for all cases of projection.

- This is an attempt at understanding what factors enter into consideration when a presupposition fails to project.
  - Are there general constraints against projection, independent of construction/trigger?
  - Can we identify factors external to the theory of presupposition that help remove some of the explanatory onus from it?

  ...

Karttunen's (1974) insight

- Crucial observation: what (at least some) compound sentences presuppose is not fixed; it depends on properties of the context.

(8) a. If Dean told the truth, Nixon is guilty too.
⇝ Someone other than Nixon is guilty

b. If Haldeman is guilty, Nixon is guilty too.
⇝ Someone other than Nixon is guilty

c. If Miss Woods destroyed the missing tapes, Nixon is guilty too.
⇝ Someone other than Nixon is guilty (*if* destroying tapes is a crime)
⇝ Someone other than Nixon is guilty (*if* destroying tapes is not a crime)

Karttunen's (1974) generalization

Satisfaction

Context c satisfies the presuppositions of $A \rightarrow B$ just in case (i) c satisfies the presuppositions of A, and (ii) $c \cup A$ satisfies the presuppositions of B.

Karttunen's (1974) generalization

- A context c satisfies the presuppositions of conditional $A \rightarrow B_p$ in exactly following kinds of context, leading to the **minimal conditions** for a context to satisfy the presupposition of a conditional.
  1. $c \vDash p$
  2. $c \nvDash p$ but $c \cup A \vDash p$
  3. $c \vDash A \rightarrow p$

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- A context c satisfies the presuppositions of conditional $A \rightarrow B_p$ in exactly following kinds of context, leading to the **minimal conditions** for a context to satisfy the presupposition of a conditional.
  1. $c \models p$
  2. $c \not\models p$ but $c \cup A \models p$
  3. $c \models A \rightarrow p$
- Identifying the minimal condition in (3) with *the* presupposition of $A \rightarrow B_p$, predicts conditional presuppositions $A \rightarrow p$ across-the-board.
- But saying that presuppositions are admissibility conditions does not merit the conclusion that $A \rightarrow p$ *is* the presupposition of $A \rightarrow B_p$.
- The *actual* presuppositions of a conditional are themselves context dependent. We should be able to state *when* they are satisfied without making any context independent predictions about *what* they are.

From projection to admissibility

- ❓ When does a conditional require a context to be of type $c \models p$ or type $c \not\models p$ but $c \cup A \models p$?
- This is **not** the same as the projection problem; it is the problem of accounting for the role of context in determining what an expression presupposes.
- Accounts that have attempted to answer this question rely typically on pragmatic considerations related to e.g. the conditional independence of p relative to A (van Rooij 2007), plausibility (Beaver 2001), etc.

A question rephrased

Question 1

What explains the *lack* of presupposition projection (e.g. as in (3))?

- Are there "inadmissibility" conditions that we can identify that regulate presupposition projection from complex sentences?

Epistemic defensibility
a context cannot satisfy a presupposition p if $c \cup A \vDash I_s[p]$

$I_s[p] \equiv \neg B_S[p] \wedge \neg B_S \neg [p]$

Assumptions

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6. Typically, *A* in $A \rightarrow B$ is a mere supposition and *S* is taken to be ignorant/uncertain about it: $\neg B_S \neg [A] \wedge \neg B_S[A]$ (or $I_S[A]$).

Case 1: $A \rightarrow B_p$ and $A \not\Vdash p$

Epistemic defensibility
if speaker S is ignorant about proposition ϕ, a complex sentence will not presuppose ϕ, since, if it did, the speaker would have to be assumed to hold an inconsistent epistemic state.

In a context c where *John has a sister* $\notin c$:

(5) If J has free time this afternoon, he'll pick up his sister.
$\rightsquigarrow$ J has a sister
$\not\rightsquigarrow$ If J has free time, J has a sister

- **ST's Prediction**: John has free time $\rightarrow$ John has a sister
- **Current prediction**: John has a sister

Case 2: $A \rightarrow B_p$ and $p \vDash A$ $\neg B_S[A] \wedge \neg B_S \neg [A]$

(9) If Kipchoge is participating, he will stop running. $\rightsquigarrow$ K is running

- By assumption $p \in CG$ and $CG \subseteq B_S$, it follows that $B_S[p]$.

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- Thus, uttering $A \rightarrow B_p$ where $p \vDash A$ is **epistemically indefensible**; p must not project.

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- Thus, uttering $A \rightarrow B_p$ where $p \vDash A$ is **epistemically indefensible**; p must not project.

➔ The urge to preserve the speaker's epistemic state consistent trumps the possibility of taking the speaker to presuppose p in the context.

Case 3: $A \rightarrow B_p$ and $p \vDash A$ $B_S[A]$

- Not all *A*s in conditionals need convey ignorance; here $B_S[A]$
- Projection varies accordingly.

(10) a. Sue is finally participating!

b. Well, if Sue is participating, she will stop running.
$\rightsquigarrow$ Sue is running

(11) a. Sue isn't participating!

b. Well, if Sue isn't participating, she will regret not running.
$\rightsquigarrow$ Sue isn't running

Case 4: $A \to B_p$ and $A \equiv p$

(12) If Liz is in Berlin, Bill will discover that she is there.
$\not\rightsquigarrow$ Liz is in Berlin.

- S considers both A and $\neg A$, leading to ignorance/uncertainty (in particular $\neg B_S[A]$ and $\neg B_S \neg [A]$), and this precludes projecting p.
- If it did, $B_S[p] \wedge \neg B_S[A] = \bot$, since $B_S[p] \equiv B_S[A]$.

Case 5: $A \rightarrow B_p$ and $A \vDash p$

(13) If Liz is in Berlin, Bill will discover that she is visiting Europe.
$\rightsquigarrow$ Liz is visiting Europe.

- A entails p, but p entails neither A nor $\neg A$.
- Both $\neg A$ and A are epistemically accessible for S; $P_S[A] \wedge P_S\neg[A]$.
- No conflict arises between $B_S[p]$ and $\neg B_S[A] \wedge \neg B_S\neg[A]$, p projects.

Case 6: $A \vee B_p$ and $p \vDash \neg A$

- Disjunctions require obligatory compatibility with the truth and falsity of each disjunct; e.g. $\neg B_S[A] \wedge \neg B_S \neg [A]$.
- If p projected, $B_S[p]$, then $B_S \neg [A]$ and $\neg B_S \neg [A] \wedge B_S \neg [A] = \bot$.

(14) Either Liz isn't in Berlin or Bill will discover that she's staying near Brandenburg Gate.
$\nrightarrow$ Liz is staying near Brandenburg Gate

However

- Unexpected projection is still unexpected!

(6) # John was limping earlier; I don't know why. Maybe he has a stress fracture. I don't know if he plays any sports. However, if he has a stress fracture, then he'll stop running cross-country now.

(7) ✓ John was limping earlier; I don't know why. Maybe he has a stress fracture. ~~I don't know if he plays any sports.~~ If he has a stress fracture, then he'll stop running cross-country now.

✘ Pragmatic strengthening
No strengthening is expected; (*i*) the conditional presupposition is perfectly fine and (*ii*) strengthening leads to infelicity.

✘ Pragmatic weakening
Weakening doesn't happen precisely there where it is expected to happen.

So far

Question 1

What explains the *lack* of presupposition projection (e.g. as in (3))?

- Presuppositions cannot project if they "cause pragmatic embarrassment" (except when they do…)

Epistemic defensibility
don't project your presuppositions if in doing so you embarrass yourself by declaring that you hold an inconsistent epistemic state!

Missing presuppositions

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- **Hunch**
  ST got this right: presuppositions that don't project globally are *conditionalized* to the antecedent clause (in conditionals) or the negation of first clause (in disjunctions) it entails.
- If the truth of the antecedent A cannot be settled, the truth of p is interpreted as being contingent on the truth of A.

Missing presuppositions

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- If the truth of the antecedent A cannot be settled, the truth of p is interpreted as being contingent on the truth of A.

➔ Sometimes, presuppositions *are* equivalent to Karttunen's minimal admissibility conditions that contexts require of presuppositional sentences (i.e. $c \cup A \models p$ or $c \models A \rightarrow p$).

Conditional projection

(15) If Liz is in Berlin, Bill will discover that she's staying near Brandenburg Gate.

a. $\not\rightsquigarrow$ Liz is staying near Brandenburg Gate

b. $\rightsquigarrow$ If Liz is in Berlin, she is staying near Brandenburg Gate

Conditional projection

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a. $\not\rightsquigarrow$ Liz is staying near Brandenburg Gate

b. $\rightsquigarrow$ If Liz is in Berlin, she is staying near Brandenburg Gate

- But why conditionalization?
  - In conditionals, *p* is contingent on *A*, which is uncertain to *S*.
  - The dependence on an uncertain *A*—together with ED—explains why *p* does **not** project.
  - But it does **not** explain presupposition conditionalization.

Conditional projection

- What we need to know in order to predict whether a context will satisfy p in $A \rightarrow B_p$ includes a number of semantic relations:
  - Between c and p.
  - Between A and p.
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- Echoing Karttunen, we won't be able to tell what $A \rightarrow B_p$ *actually* presupposes in isolation.
  - We know it *could* presuppose $A \rightarrow p$.
  - We know it *could* presuppose p.
  - It may presuppose other things.

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Conditionals are prone to invite a family of different inferences (including $I_S[A]$). Do other inferences sanction the availability of conditionalization?

Towards conditional projection: additional conditions

- What if an additional condition *X* for *p* is provided? In that case *p* is felt to be conditionalized to *X* too.

  (16) If Liz is in Berlin, Bill will discover that she's near Brandenburg Gate. Unless she is staying with her friend Sam. In that case she'll be staying in Kreuzberg.

  ⇝ If Liz is in Berlin [**and** she is not staying with Sam], she is staying near Brandenburg Gate.

- The whole mini-discourse in (16) that is felt to presuppose the conditional presupposition.

Towards conditional projection: world knowledge

❓ What other factors may affect the way conditionals are felt to project?

- There are cases where it is the first clause that, together with one or more contextual premises, entails the presupposition carried by the second clause.
  - The presupposition does not entail the first clause.
  - Nevertheless, a conditional presupposition arises.

(17) If Tom doesn't exercise, he will regret getting a bypass
$\not\rightsquigarrow$ Tom will get a bypass
$\rightsquigarrow$ If Tom doesn't exercise, he will get a bypass

❗ Epistemic Defensibility would allow default projection.

Towards conditional projection: conditional perfection

- **Hunch**

  A is felt to provide the only necessary and sufficient condition that matters to satisfy the presupposition. *H* would infer that, if Tom has to get a bypass, it must be the case that he did not exercise:
  - If Tom doesn't exercise, he gets a bypass.
  - If Tom exercises, he doesn't get a bypass.

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- There is an *inferrable* **symmetric entailment** between *A* and *p*.

➔ But if so, *p* entails *A* and *p* must not project (for reasons discussed above).

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➔ But if so, *p* entails *A* and *p* must not project (for reasons discussed above).

- As a result, *for reasons still intuitively appealing but unclear*, the presupposition is conditionalized.

➔ This conditionalization does **not** follow from world knowledge; it follows from a *perfected* interpretation of the conditional (an inference that turns → into ↔).

Towards conditional projection: conditional perfection

- Like before, contextual premises may be overriden by additional information.
- If the sentence is followed by a continuation that provides a *different sufficient* condition for the presupposition, conditionalization disappears.

(18) If Tom doesn't exercise, he will regret getting a bypass. But if he does exercise, he will have done everything he could and he won't regret it.
$\rightsquigarrow$ Tom will get a bypass.

➔ The mini-discourse does not support an interpretation where exercising is the single sufficient condition for getting a bypass. I.e. no conditional perfection is supported. As a result, *p* projects.

Consequence of conditional perfection

- Perfection ~ no projection!
- There is a partial inverse relation between perfection and (unconditional, global) projection: the more likely a perfected interpretation of a conditional with a single sufficient condition is, the less likely projection is.
- Why? Because perfection conveys that *S* cannot settle antecedent *A* and so *p* cannot project, as it would contradict the uncertainty of whether *A* is the case.
- This is empirically testable: presuppositions in *B* should project globally unless
  - one of the conditions in Cases #1 throuth #6 above are met, and
  - the statement does not allow a perfected interpretation.

Recap

Question 2

What happens to presupposed meanings that do not project?

- They are interpreted conditionally, minimally relative to the antecedent *A* of the conditional, and possibly relative to further contextual premises.
- Further inferences drawn from the conditional itself (i.e. perfection) modulate how likely it is to project (un-)conditionally.

Conclusion

① The principle of Epistemic Defensibility—i.e. that speakers present themselves as being consistent in their beliefs—acts as a constraint which prevent the projection of presuppositions in compound sentences.

② Presuppositions that do not project are conditionalized to some condition (typically the antecedent clause) in conditional statements.

③ In conditional statements, antecedents might be taken to provide *sufficient* conditions, and this can help explaining the conditionalization of the presuppositions that do not project.

④ If so, conditionalization of *p* is *inferable* and thus different from they way that ST regard conditional presuppositions (i.e. *p* is not necessarily a *semantic* conditional presupposition).

Cf. Gazdar (1979)

- Epistemic Defensibility is directly inspired by Gazdar's (1979) view that *clausal implicatures* can override *potential* presuppositions.
- See criticisms in Beaver (2001), van der Sandt (2010), a.o.
- What matters here is not so much whether p is the case, but whether $B_s[p]$. It is the speaker's felt epistemic attitude towards p that "makes it or breaks it."
- This is different from simply calculating implicatures and filtering "possible" or "potential" presuppositions out: contextually available information has a much more central role here than in Gazdar (1979).

Back to Karttunen (1974)

- The *actual* presuppositions of a conditional are themselves context dependent. We should be able to state *when* they are satisfied without making any context independent predictions about *what* they are.
- Today: an attempt to contribute to this project are stating when presuppositions *cannot*/*should not* be satisfied in context.
- ED is ultimately a "top-down" constraint on presupposition projection (not necessarily part of the theory of presupposition projection).

Thanks!

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Beaver, D. I. (2001). *Presupposition and assertion in Dynamic Semantics*. CSLI Publications, Stanford University.

Beaver, D. I., Geurts, B., and Denlinger, K. (2021). Presupposition. In Zalta, E. N., editor, *The Stanford Encyclopedia of Philosophy (Spring 2021 Edition)*. Metaphysics Research Lab, Stanford University.

Gazdar, G. (1979). *Pragmatics: Implicature, Presupposition and Logical Form*. Academic Press.

Geurts, B. (1996). Local satisfaction guaranteed: A presupposition theory and its problems. *Linguistics and Philosophy*, 19(3):259–294.

Heim, I. (1983). On the projection problem for presuppositions. In Barlow, M., Flickinger, D., and Wescoat, M., editors, *Proceedings of the West Coast Conference on Formal Linguistics (WCCFL) 2*, pages 114–125. Stanford Linguistics Association.

Karttunen, L. (1974). Presuppositions and linguistic context. *Theoretical Linguistics*, 1(1–3):181–194.

Langendoen, D. and Savin, H. (1971). The projection problem for presuppositions. In Fillmore, C. and Langendoen, D. T., editors, *Studies in linguistic semantics*, pages 373–388. Holt, Reinhardt and Winston, New York.

Lassiter, D. (2012). Presuppositions, provisos, and probability. *Semantics & Pragmatics*, 5:1–37.

Mandelkern, M. (2016). A note on the architecture of presupposition. *Semantics and Pragmatics*, 9(13):1–24.

Schlenker, P. (2009). Local contexts. *Semantics and Pragmatics*, 2(3):1–78.

Schlenker, P. (2011). The proviso problem: a note. *Natural Language Semantics*, 19(4):395–422.

Singh, R. (2007). Formal alternatives as a solution to the proviso problem. In Gibson, M. and Friedman, T., editors, *Proceedings of the 17th Conference on Semantics and Linguistic Theory*, pages 264–228, Ithaca, NY. CLC Publications, Cornell University.

Singh, R. (2009). Symmetric and interacting alternatives for implicature and accommodation. In Klinedinst, N. and D. Rothschild, D., editors, *Proceedings of the ESSLLI 2009 Workshop: New directions in the theory of presupposition*.

van der Sandt, R. (1988). *Context and presupposition*. Croom Helm, London.

van der Sandt, R. (2010). Pragmatic strategies. In Buerle, R. U. and Zimmermann, T. E., editors, *Presuppositions and Discourse: Essays offered to Hans Kamp*, Current Research in the Semantics/Pragmatics Interface. Emerald Group Publishing Limited.

van Rooij, R. (2007). Strengthening conditional presuppositions. *Journal of Semantics*, 24:289–304.

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