Notes on the Proviso Problem (slight modification of handout from Spring 2018)

1. The problem of detecting the presupposition of complex sentences

- (1) a. If John is a scuba diver, he will bring his wetsuit. Inference: If John is a scuba diver, he has a wetsuit.
 - b. If John flies to London, his sister will pick him up. Inference: John has a sister.
- (2) a. Either John is not a scuba diver or he will bring his wetsuit. Inference: If John is a scuba diver, he has a wetsuit.
 - b. Either John is not a scuba diver or his car has a wetsuit in it. Inference: John has a car.
- (3) a. If x lands on planet W, x will realize that he weighs less than on earth. Inference: If x lands on planet W, x will weigh less than on earth.
 - b. If x weighs himself, x will realize that he weighs less than on earth. Inference: x weighs less than on earth.

2. Two ways to think about the facts

Let ψ_p be a sentence that has p as its semantic presupposition and ϕ be a sentence that has no presupposition.

Weak Presuppositions + Abductive Reasoning (henceforth, just AR): Presupposition($\varphi \text{ or } \psi_p$) = $\varphi \text{ or } p = \neg \varphi \rightarrow p$ Presupposition(*if* φ *then* ψ_p) = $\neg \varphi \text{ or } p = \varphi \rightarrow p$

The stronger inference, *p*, is a possible way of resolving the problem of presupposition accommodation (a *coordination problem*).

Presupposition Accommodation – the hearer's task (in the spirit of Beaver 2001): to guess what the speaker, s, wants s&h to take for granted when interpreting s's utterance (guessing Cs).¹

p [rather than just $(\neg) \varphi$ or p] is accommodated in communicative situations where it is most plausible that C_s entails p, specifically when it is implausible that s wants s&h to just take the disjunction for granted, without also taking p for granted.

¹ Likewise we can talk about s's task: to guess what h would guess is C_s per choice of utterance and if guess is wrong to make appropriate changes (hence a coordination problem).

Ambiguity:²

Presupposition₁($\varphi \text{ or } \psi_p$) = $\varphi \text{ or } p = \neg \varphi \rightarrow p$; Presupposition₂($\varphi \text{ or } \psi_p$) = pPresupposition₁(*if* φ *then* ψ_p) = $\neg \varphi \text{ or } p = \varphi \rightarrow p$; Presupposition₂(*if* φ *then* ψ_p) = pPlausibility consideration will, as usual, enter into disambiguation.

3. Abductive Reasoning

 (1)a If John is a scuba diver, he will bring his wetsuit. Inference: John is not a scuba diver or John has a wetsuit ¬SD or WS

It is a very reasonable guess that C_s does not entail WS. Specifically, it is plausible that s wants to take for granted a CG that entails the disjunction without also entailing one of the disjuncts.

*C*_{h0}: h's initial guesses as to what C_s is. (**C*_{h(n)} a modification of *C*_{h(n-1)}*) *C*_h: h's final guess as to what C_s is.

 $C_h := C_{h(n)}$ if $C_{h(n)}$ is successful

When (2)a is uttered, there are *four scenarios for h to consider*:

Scenario 1:	The first disjunct $\neg SD$ is entailed by C_{h0} . Will be rejected immediately: In such a context the sentence is not assertable (it is a contextual tautology, i.e. not informative).
Scenario 2:	The second disjunct WS is entailed by C_{h0} . Possible buy maybe not very probable.
Scenario 3:	The disjunction is entailed by C_{h0} , yet neither disjunct is. This is a realistic scenario.
Scenario 4:	The disjunction is not entailed by C_{h0} . Here "accommodation" is required. h will have to consider another guess and this guess must entail $\neg SD$ or WS. But what will h do? This is a bit of an open-ended problem. Possible strategy: choose the minimal accommodation, if you can. [Note, however, that even here this might not be correct. What seems to be accommodated is that all scuba-divers have wetsuits (or maybe all scuba divers of John's variety).]

Conclusion: There are scenarios where $\neg SD$ or WS ends up being part of the hearers guess as to what C_s is without WS being part of. Hence WS is not perceived as an inference.

(1)b If John is a scuba diver, his car has a wetsuit in it. Inference: John has a car. (In short: *Car*)

² If ambiguity is pursued, there will have to be additional possibilities. As Singh points out, sentences of the form *if* p_1 and p_2 and ... p_n , then q will have to have quite a few readings. See (6) and (7) below.

It is odd for the disjunction to be part of a CG without one of the disjuncts being part of the CG. This explains why C_h will end up entailing *Car*.

More specifically, four scenarios to consider:

Scenario 1:	The first disjunct $\neg SD$ is entailed by C_{h0} . Will be rejected immediately: In such a context the context is plausibly not accertable.
	such a context the sentence is plausibly not assertable.
Scenario 2:	The second disjunct <i>Car</i> is entailed by C_{h0} . This could be a reasonable
	context, and one in which the sentence is assertable.
Scenario 3:	The disjunction is entailed by C_{h0} , yet neither disjunct is. Highly
	implausible: suggests a connection between being a scuba diver and having
	a car.
Scenario 4:	The disjunction is not entailed by Ch0. Here "accommodation" is required.
	The minimal accommodation, $\neg SD$ or Car, leads to an implausible
	information state. h has to search for alternative information states. There are
	many possibilities to consider, but two that suggest themselves corresponds
	to the two disjuncts $\neg SD$ and Car: $\neg SD$ is not an available accommodation
	(Scenario 1). We are left with Car.

Conclusion: In all scenarios, the second disjunct ends up being entailed by C_h and is, hence, perceived as an inference of the sentence.

From now on we will sometimes use the (misleading) term *pragmatic strengthening* to talk about cases where C_h is updated by something stronger than the *minimal* accommodation.³

4. Challenges to Pragmatic Strengthening

- 1. There are environments where pragmatic strengthening is impossible. Can the theory of Pragmatic Strengthening distinguish such cases from (1)b and (2)b? (Geurts)
- 2. Are there other accommodations besides the two disjuncts that ought to be considered when minimal accommodation is not an option? Do we need to have a principle that determines *alternatives* determines a set of possible candidates for strengthening? (Singh)
- 3. Are there cases where strengthening occurs without an obvious pragmatic pressure (or even when there is a pressure against strengthening, Katzir and Singh, Mandelkern)?
 - a. Are there cases where a non-minimal accommodation is selected even when the minimal one would be plausible (or even when we might expect it to be preferred)?
 - b. Are there cases where a non-minimal accommodation is observed even when the formal disjunctive presupposition is, arguably, already part of CG?

³ Misleading term for two reasons: a. no strengthening is involved, just an attempt at finding a simple explanation for the speaker's actions (AR); b. accommodation, if some of the speculative comments below are right, is hardly ever minimal but is almost always accompanied by explanations/justifications of the presuppositions – as we already saw in our note on scenario 4 in the case of (1)a.

4.1. Geurts' Challenge

Why is Pragmatic Strengthening not available in (4)b and (5)b?

- (4) a. If John is a scuba diver, he has a wetsuit in his car.
 - b. Mary knows that if John is a scuba diver, he has a car.
- (5) a. Either John is not a scuba diver or he has a wetsuit in his car.
 - b. Mary knows that either John is not a scuba diver or he has a car.

Possible answers:

- a. Something about the utterance of (4)b and (5)b (an implicature) suggests to h that s is ignorant about the second disjunct *Car*. (Beaver, Heim, Alejandro Pérez Carballo)
- b. In (4)b and (5)b (in contrast to (4)a and (5)a) nothing tells us how to choose between the two possible strengthening (the two disjuncts) Fox 2013.

4.2. In search of stronger challenges

The following might serve as a stronger challenge of the same sort

Minimal pairs that

- a. convey exactly the same information (both assertion and implicatures) AND
- b. are predicted to have the same semantic presupposition by a theory that assumes pragmatic strengthening, BUT
- c. lead to different accommodations.

The following pairs, inspired by Schlenker and Singh, are possible candidates:

- a. If John is an undergraduate at MIT and has Kai von Fintel as his undergraduate advisor, he will not talk at his Job interview about his gym requirements.
 Likely inference: If John is an undergraduate at MIT, he has gym requirements.
 - b. If John is an undergraduate at an academic institution in New England and has Kai von Fintel as his undergraduate advisor, he will not talk at his Job interview about his gym requirements.
 Likely inference: If John is an undergraduate at an academic institution in New

Englad, he has gym requirements.

The strengthening that we need to assume for (6)b seems to be unavailable for (6)a. Why is that?

Likewise:

- a. If John is a Michigander who resides in Detroit and practices law there, he will find a way to take advantage of his rights as a holocaust survivor.
 Likely inference: If John is a Michigander, he has rights as a holocaust survivor.
 - b. If John is a Midwesterner who resides Detroit and practices law there, he will find a way to take advantage of his rights as a holocaust survivor.
 Likely inference: If John is a Midwesterner, he has rights as a holocaust survivor.

General recipe for forming minimal pairs: $\langle If q \& q^+ then \psi_p, If q' \& q^+ then \psi_p \rangle$ where q^+ contextually entails both q and q'. The two conditionals are contextually equivalent, yet they have different options for pragmatic strengthening.

This support the conclusion that Singh reached based on other examples: either an ambiguity thesis is correct or the structure of a sentence enters into the determination of the class of possible accommodations.

Additional Examples to consider

- a. Every Harvard student advised by Gennaro will not talk at his Job interview about his gym requirements.
 Likely inference: Every Harvard student has gym requirements.
 - b. Every Ivy League student advised by Gennaro will not talk at his Job interview about his gym requirements.
 Likely inference: Every Ivy League student has gym requirements.

An argument from Fox 2013:

- (9) a. Did some of your 10 students stop smoking today?
 - b. #Is it the case that some of your 10 students smoked yesterday and stopped today or that each of your 10 students smoke yesterday and none of them stopped today?
- (10) a. Does one of your two sons drive his car to school?
 - b. #Does one of your two sons have a car and drive it to school or do both your sons have a car and neither drives it to school?

If SK presuppositions are correct, the (a) and (b) sentences in (9) and (10) have the same presupposition

In (9): Either (p) one of the 10 students smoked and stopped or (q) all of the students used to smoke and none of them stopped.

In (10): Either (p) one of your 2 children has a car and drives it to school or (q) both of your children have a car and neither drives it to school. Furthermore, they ask for exactly the same information: they have $\{p,q\}$ as their Hamblin denotation. But they feel different.

The two pairs also ask for exactly the same information: they have $\{p,q\}$ as their Hamblin denotation. But they feel different.

A way to approach the problem: Believing p or q without believing one of the disjuncts is odd and thus motivates pragmatic strengthening. But such strengthening is only available for (9)a.

Note: when strengthening is not required to avoid oddity, the two questions do seem equivalent.

- (11) a. Did one of the 10 bankers make his fortune by wiping out one of the others?
 - b. Did one of the 10 bankers make a fortune by wiping out one of the others or did they all make a fortune in some other way?

Possible path towards an explanation: Believing p or q without believing one of the disjuncts is odd and thus motivates pragmatic strengthening. But strengthening is only available given the structure in (9)a. (9)b, thus, remains odd.

What we would need: a theory that would derive for each sentence a set of possible pragmatic presuppositions that can be accommodated (see Singh and Schlenker).

More on Schlenker's proposal...

4.3. Mandelkern (2016)

Strengthening with no obvious pragmatic pressure

(12) [It is common ground that Smith went missing last week, and we don't know whether he is still alive. A detective enters and asserts:] If the butler's clothes contain traces of Smith's blood, then it is the butler who killed Smith.

In (12) minimal accommodation is plausible. In fact, we might even consider the possibility that it might be taken to be part of the common ground (or at least entailed by C_{h0}). Still we feel that the stronger inference is drawn.

Explanation entertained by Mandelkern: The minimal accommodation is not sufficient. It must come with an explanation, something that would tell us why s might want the resulting C to be common ground. Specifically we need an explanation of the connection between the two disjuncts (which is also inserted into CG). And the only plausible explanation we could give in this case is that if there are bloodstains on the butler's clothes, they got there as a

result of the murder which the butler committed. But with such a justification, assertion would be redundant.

Note that this explanation, if correct, teaches us that minimal accommodation is not minimal - accompanied with an explanation (see note 3).⁴

(13) [It is common ground that Smith went missing last week, and we don't know whether he is still alive. A detective enters and asserts:] If the butler's clothes contain traces of Smith's blood, then we'll soon have Smith's murderer behind bars.

(13) has the same presupposition as (12), and once again minimal accommodation seems plausible. But now the assertion would not be redundant.

Possible Conclusion: either an ambiguity thesis is correct (with strong preference in this case for non-conditional presupposition), or there are reasons why the best explanation of s's utterance is that C_s entails that Smith was murdered.

But...Minimally Contrasting Example (not from Mandelkern):

(14) [It is common ground that Smith went missing last week, and we don't know whether he is still alive. A detective enters and asserts:] If the butler's clothes contain traces of Smith's blood, we should hang him for the murder.

Why? Speculations below...

4.3.3. Strengthening despite pragmatic pressure for minimal accommodation

- (15) [It is common ground that Susie has disappeared. The detective says:] We don't know where Susie is or even whether she's still alive. We need to examine her room.
 - a. If there are bloodstains in the room, then Susie was murdered, and Susie's murderer did a sloppy job.
 - b. #If there are bloodstains in the room, then Susie's murderer did a sloppy job.

In (15) minimal accommodation would be appropriate. The stronger non-conditional presupposition is chosen despite the fact that this leads to deviance.

Possible Conclusion: either (i) an ambiguity thesis is correct and sometimes unconditional presuppositions are strongly preferred or (ii) there are strong unidentified reasons for pragmatic strengthening that lead to deviance in (15)a.

But...Minimally Contrasting Examples (not from Mandelkern):

⁴ For considerations of this sort that arise elsewhere, see Bi (2021) [https://drive.google.com/file/d/1D8-GnJ72iFR5krK1Ubv4_bGPYA_8ws_U/view]

- (16) [Susie has disappeared. The detective and her team have been working non-stop for 48 hours. The detective says:] We still weren't able to figure out whether her kidnapers have her or whether she was murdered early this morning. But we did figure out where she was kept last night. If there are signs of mass bleeding, we will take the rest of the day off and begin our attempts at identifying the murderer early tomorrow morning. If there aren't, we meet here at 2PM, working under the assumption that Susie is still alive.
- (17) [Susie has disappeared. The detective and her team have been working non-stop for 48 hours. The detective says:] If we find blood stains on the floor, we will take the rest of the day off and begin our attempts at identifying the murderer early tomorrow morning. If we don't, there will be no time off...we will continue to assume that Susie is alive.

Here's my speculation (based on suggested made by Irene Heim that Mandelkern responds to in note 26).⁵

Interpretation involves a more complicated coordination problem. Every assertion is made against a common-ground C and a question/issue, Q, (partition of C). h has to identify both C_s and Q_s . Choice of C_s is likely to affect choice of Q_s (of course s should be able to anticipate that C_s and Q_s are retrievable).

If C_s does not entail that Susie was murdered, it is reasonable in the context of (15) for Q_s (a partition of C_s) to be something like "what happened to Susie (under various scenarios)" in which case (15)b would address the question with an accommodated presupposition, violating Heim's constraint.⁶

The same line of reasoning applies, I think, also to (13). In (13) the obvious question – when *murder* is not entailed by C_s – is (how do we find out) whether Smith was murdered. [Also, although (13) is not redundant, given C_s , its part that is relevant to Q_s is redundant, where the part of S relevant for Q is the smallest union of cells entailed by S.] (14), (16) and (17) differ in making a different question salient: *what should we do (under various scenarios)*.

Obvious Concern: Can't we think of an alternative question when C_s does not entail that there was a murder (an alternative to "what happened to Susie/Mr. Smith")?

I don't think there is a general characterization of what questions hearers can accommodate. So all I can do is try to entertain various possibilities.

⁵ Mandelkern in this footnote is right to claim that any Q that would lead to violation of Irene's constraint under the disjunctive presupposition will also lead to violation under a stronger presupposition. What I am suggesting here is that hypotheses about Q_s are not independent of hypotheses about C_s .

⁶ Perhaps we should also consider the possibility that Q_s is a conditional question, a partition of an update of C_s with the antecedent (see Isaacs and Rawlins 2008).

"what do we know about the murderer?": of course not available unless C_s entails that there is a murder.

"What can we do to figure out important stuff about whoever committed the crime": This, in principle, is a reasonable question but Mandelkern's example somehow doesn't make this question transparent. Perhaps such a question is hard to retrieve without contextual assistance. Here is an attempt...

(18) [Susie has disappeared. The detective and her team meet at Susie's home. Someone asks. What are we looking for? The detective answers] She was obviously either murdered or kidnapped. If there are bloodstains on the floor, the murderer did a sloppy job. If we can find Susie's footprints in the driveway, the kidnappers are novices. These are just some examples of things we would like to know. I won't be able to spell out everything for you. Please, use your imagination.

"What will happen to whoever committed the crime": Again, I would like to suggest that it is hard to retrieve this question without contextual assistance. But here is a case where this is explicitly asked.

(19) [It is common ground that Smith went missing last week, and we don't know whether he is still alive. But we do know that he was either murdered or kidnapped. Question to detective in press conference: what will happen to the perpetrator?] If someone's clothes contain traces of Smith's blood, then the murderer will spend many years behind bars. If we can't find any blood stains anywhere, then... not much I can say at this point.