

The Presupposition of Subjunctive Conditionals

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0. Introduction

Why are some conditionals subjunctive? It is often assumed that at least one crucial difference is that subjunctive conditionals presuppose that their antecedent is false, that they are counterfactual (Lakoff 1970). The traditional theory has apparently been refuted. Perhaps the clearest counter-example is one given by Alan Anderson (1951: 37): *If Jones had taken arsenic, he would have shown just exactly those symptoms which he does in fact show*. A typical place to use such a subjunctive conditional would be in the course of an argument that tries to bolster the hypothesis that Jones did in fact take arsenic. But then it would of course be self-defeating to presuppose that the hypothesis is false. Thus, something else must be going on.

1. Preliminaries

Let's first assume the following "strict" semantics for "bare" conditionals, those in which the *if*-clause restricts an implicit quantifier over worlds:

(1) Schematic Truth-Conditions for Bare Conditionals

A bare conditional *if p, q* has the logical form $\bigwedge_{D} (\text{if } p) (q)$.
If defined, it is true in a world w iff all worlds w' in $D(w)$ such that $p(w')$ are such that $q(w')$:

$p \wedge \bigwedge_{D(w)} q$.

Here D is a function that assigns to any (evaluation) world w a set of accessible worlds.

This semantics departs in some ways from the more standard Stalnaker-Lewis analysis and is justified in a recent paper of mine (von Fintel 1997). What it

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basically says is that *if p, q* is true in a world *w* iff all *p*-worlds *w'* in the currently relevant contextually determined domain of quantification *D(w)* are *q*-worlds.¹

We also assume a “compatibility presupposition”:

(C) Compatibility Presupposition

A conditional *if p, q* is only defined for a world *w* if the contextual domain of quantification *D(w)* includes *p*-worlds:

$p \subseteq D(w)$.

Arguably any quantificational structure in natural language carries such a presupposition, namely that there are relevant cases of the kind described by the restriction on the quantifier. For quantifiers over individuals this is usually known as an existence presupposition.

For any conversation, there is also the current context set *C*, which contains all and only those worlds that are currently taken to be epistemically accessible. The usual assumption is that this set of worlds comes about via tacit agreement between the partners of the conversation: it is the set of worlds that we agree could be actual for all we have mutually established so far.

To repeat: we have the set *p* of worlds in which the antecedent of the conditional is true, the set *D(w)* of worlds that forms the domain of quantification, and the set *C* of “common ground” worlds.

We will call a conditional *if p, q* counterfactual iff it is presupposed that *C* contains no *p*-worlds. This is the same as saying that *p* is presupposed to be false in the actual world (since it is presupposed that the actual world is in *C*).

We will call a conditional *if p, q* subjunctive iff it displays the morpho-syntactic hallmarks whose semantics we are trying to establish. In English, the signals are a modal *would* or *might* in the consequent and the characteristic backshifting of tense marking (what Iatridou (1996) calls “fake tense”). We should probably come up with a different terminology, since as Iatridou shows in languages that have a true subjunctive mood, it is not in fact the mood that is used in “subjunctive” conditionals. But I will stick with the terminology that is established in the philosophical tradition.

I am departing from the majority opinion in philosophical work on conditionals in that I assume that the difference between indicative and subjunctive conditionals is situated against the background of substantially identical truth-conditions. For me, the difference is entirely located in what kind of domains they quantify over. This opinion will need to be argued for at length, but this is not the place to do this. Most researchers will however agree in some form or other that indicative and subjunctive conditionals differ **at least** in the epistemic status of their domain of quantification. What exactly **that** kind of difference consists in is the topic of this paper.

¹Although I am unsure about some details, Iatridou’s *topic sphere* (1996) can probably be identified with my *D(w)*.

2. The Set-Up

Let us call the embattled theory (S):²

- (S) All subjunctive conditionals are counterfactuals

Subjunctive marking on a conditional *if p, q* is only felicitous relative to a world *w* if the context set *C* contains no *p*-world:

$$p \notin C = \text{.}$$

We could imagine an addition to (S):

- (I) All indicative conditionals are non-counterfactuals

Indicative marking on a conditional *if p, q* is only felicitous relative to a world *w* if the context set *C* contains some *p*-world:

$$p \in C = \text{.}$$

The claims (S) and (I) together imply complementary distribution: use the subjunctive if and only if you presuppose that *p* is false, use the indicative if and only if you presuppose that *p* is possibly true.

Instead of immediately attacking the complementarity claim (which I will do later in Section 8), I will start by looking at the famous example from Anderson (1951: 37):³

- (2) If Jones had taken arsenic, he would have shown just exactly those symptoms which he does in fact show.

We want to argue for the truth of the antecedent *p*. Thus, we cannot possibly presuppose that it is false. So not all subjunctive conditionals are counterfactuals, in direct violation of (S). Nevertheless, we are putting subjunctive marking on the conditional. Why? If we have to abandon (S), what **is** the interpretation of subjunctive marking? We will see that there is an obvious space of analyses that we can choose from. But the choice isn't easy.

²With Heim (1992), I will assume that the tense/mood marking in the *if*-clause is semantically redundant, an expression of government by the matrix modal. Only the modal's mood is interpreted. As McCawley (1996: 91, Fn. 7) points out such a view will have to think hard about examples like *If you had needed money, there was plenty in my bank account* (attributed to Johnson-Laird). But of course, such examples look like "speech act conditionals", which are a problem in their own right anyway. For "subjunctive" in the complement of *wish*, see Iatridou (1996).

³Other places where such examples have been noted include Chisholm (1949: 483) and Adams (1975: 111, 145n). Later literature, which in some cases ignores the preceding literature, includes Karttunen & Peters (1979), Brée (1982), Fauconnier (1985: 109-127), Partner (1992: 217-223).

3. Considerations

The following considerations define the space of possible analyses to replace the apparently refuted (S).

We need to consider the division of labor between subjunctive conditionals and indicative conditionals. Are they in complementary distribution? Or, are there circumstances in which the very same message can be expressed in either form? Should we have statements about the presuppositions of both kinds of marking? Or, should we just state a presupposition for one of the two and let the other one be a default that is chosen when the presupposition of the first one is not (clearly) satisfied? Is one of the two moods unmarked, while the other is a marked option?

From cursory exploration of a number of languages, one would think that the subjunctive mood is the marked construction, with indicative being the unmarked default. This being the case, we might prefer an analysis that does not connect the indicative with any specified meaning but assigns some particular meaning to the subjunctive. For example, one might have proposed that (S) is the meaning of the subjunctive: all subjunctives are counterfactuals, while (I) is not the meaning of the indicative, but simply the default/unmarked assumption, not contradicted by the indicative mood-marking, which is by itself semantically vacuous.

The natural way of stating the presupposition of the subjunctive involves the relation between the antecedent p and/or the domain of quantification $D(w)$ on the one hand and the common ground C on the other hand. (S) is just one of the ways of doing that. There is a wider range of options: the constraint concerns the relation (i) between p and C , or (ii) between $D(w)$ and C , or (iii) between $D(w)$ and C .

Lastly, we can modulate the quantificational force of the constraint: (S) claims that no p -worlds are in C , maybe we can just demand that C contain some non- p -worlds. And so on.

I will argue in this paper that we can maintain a very attractive statement: the indicative is semantically vacuous, the subjunctive carries a presupposition that the current domain of quantification is partly outside the context set.

Crucially, we will show that the moods are not obviously in complementary distribution and that the relevant constraint does not concern the status of the antecedent directly.

After this rather abstract overview, let me sketch some of the actual proposals that have been made. Then, we will turn to some data that will weed out some of the contenders.

4. Some Contenders

Portner (1992: 218). One might try to maintain the strong claim (S), perhaps even together with (I). The subjunctive presupposition is in fact that the antecedent is false in the current context set. What one might do about counterexamples is to allow there to be multiple context sets around. Then, it is of course incumbent on the proponent of such an analysis to say something about the new multitude of context sets. Portner does not really undertake this in his dissertation, but in personal communication he has made intriguing suggestions that I will report as we move along. (In his published work, his concern is primarily with the semantics of subjunctive mood in complements to *wish* and other uses. It is an open question whether there is any tight connection between that subjunctive and the marking that occurs in counterfactual conditionals.)

Karttunen & Peters (1979: 8). We might try to weaken the subjunctive presupposition: what is presupposed is not that the antecedent is false but that it is epistemically possible that the antecedent is false:⁴

(KP) subjunctive: $\neg p \quad C$.

While (S) said that there are no p -worlds in C , the weaker (KP) says that there are some non- p -worlds in C .⁵ Karttunen & Peters combine (KP) with (I): indicative conditionals presuppose that the antecedent is epistemically possible. They thus still predict that all counterfactuals have to be subjunctive marked. They also predict that conditionals whose antecedents are presupposed to be true have to be indicative. But they do not anymore predict complementarity: when the status of p has not been agreed on, both subjunctive and indicative should be permitted. Other principles would have to intervene if we determine that there is no free choice in such situations.

Stalnaker (1975: 145f). What I find to be the most intriguing proposal has been made by Stalnaker (at a point when he still considered the indicative/subjunctive distinction to be running on top of essentially the same kind of semantics). But since he does not give a formal specification of his proposal, there remain some ambiguities. Here is the basic idea: there is a natural pragmatic constraint on quantification over worlds such as that effected by conditionals: the quantification should take its domain from the worlds in the context set. All the p -worlds that we are quantifying over are inside the context set. Formally:

(ST) default: $p \quad D(w) \quad C$.

⁴In this paper, I make no distinction between the worlds in C and the epistemically accessible worlds. This is of course not entirely legitimate. It shouldn't affect the discussion however.

⁵As Uli Sauerland (pc) points out to me, (KP) is only weaker than (S) if C is assumed to be non-empty. If C is allowed to be empty, then (KP) couldn't be true but (S) would be trivially true. However, we can safely assume that C is presupposed to be non-empty.

This condition is stronger than the condition (I) considered above. Together with the compatibility presupposition in (C), it entails (I): if all relevant p -worlds are in C , and we presuppose that there are relevant p -worlds, then there must be some relevant p -worlds in C . (ST) is not equivalent to (I): in addition, it demands that all relevant p -worlds are in C , not just some.

Now, against the background of (ST) as a natural pragmatic constraint, Stalnaker suggests that the subjunctive signals that the p -worlds that we are quantifying over “may reach outside of the context set”. Note the use of *may* here. Stalnaker does not seem to be proposing a conceivable, slightly stronger, version that includes the following subjunctive presupposition:

(SS) subjunctive: $p \supset D(w) / C$.

This stronger version of Stalnaker’s view would say that the subjunctive marks the presupposition that we are **in fact** quantifying over at least some p -worlds outside the context set.

If we took (ST) to be the presupposition carried by the indicative and (SS) to be the presupposition of the subjunctive, we would predict complementarity of indicative and subjunctive mood: if and only if some of the p -worlds we are quantifying over are outside the context set, use the subjunctive.

I do not read Stalnaker’s proposal this way, although I certainly once did and although other people have read him this way. It seems to me that his proposal is that (ST) is a natural default that obtains in the absence of any particular signals. The indicative mood is semantically vacuous. The subjunctive mood signals that (ST) **may** not obtain. (SS), which says that (ST) does not obtain, is still too strong. What Stalnaker seems to propose is something like this:

(SS’) subjunctive: possibly [$p \supset D(w) / C$].

The idea seems to be that the choice of the subjunctive signals that for some reason the natural pragmatic constraint (ST) is not necessarily in force.

von Stechow. I would like to propose the following analysis, which is slightly more devious than Stalnaker’s, but closely related. The indicative/subjunctive distinction is not directly about p at all. Interpret the natural pragmatic constraint from above as simply presupposing that the domain of quantification is entirely realistic:

(VF) default: $D(w) \supset C$.

As I said, this is just a more devious way of encoding (ST): if $D(w)$ is entirely in C , then of course all p -worlds in $D(w)$ will also be in C . And again, together with the compatibility presupposition, (VF) entails (I): there must be relevant p -worlds in C .

We take (VF) to be the natural default. The indicative is semantically vacuous and therefore does not signal anything to the contrary, it is unmarked.

The subjunctive on the other hand directly signals that the domain of quantification is partly outside the context set:

(VF') subjunctive: $D(w) / C$.

The latter however is not equivalent to (SS), the strong subjunctive presupposition I considered adding to Stalnaker's analysis. The presupposition in (VF') truly remains silent about the status of p . It may be that for some reason we need to consider some non-actual worlds: of course if p is non-actual, we will need to move outside C . But perhaps, there are other reasons for moving outside $D(w)$. So, under (VF') it is possible that in fact all p -worlds are in C , but that some other reason makes us consider non-actual worlds as well.

I find such an analysis, which assumes (VF) as the default and (VF') as the specific presupposition of the subjunctive, attractive. One advantage is that it is closely modeled on a view that has been proposed (independently of each other) by McCawley and Portner. McCawley (1996: 90f) writes: "the most obvious way to separate out the contributions of *if* and the subjunctive mood to the interpretation of subjunctive conditionals is to suggest that *if A, B*, whether indicative or subjunctive, says that in all worlds of such-and-such class in which A is true, B is true, with indicative and subjunctive conditionals differing with regard to what that class of worlds is". Portner (1997) argues that this is a general property of mood: mood-marking is interpreted as properties of the domain of quantification, or in another terminology, of accessibility relations.

Let's start weeding.

5. Anderson's Example

- (2) If Jones had taken arsenic, he would have shown just exactly those symptoms which he does in fact show. [So, it is likely that he took arsenic].

We want to argue for the truth of the antecedent p . Thus, we cannot possibly presuppose that it is false. Nevertheless, we are putting subjunctive marking on the conditional. Why?

This example seems to kill any analysis that predicts that all subjunctive-marked conditionals are counterfactual. So, (S) is dead, unless we can say something about why the relevant C here is one that contains no p -worlds even though it does seem that (2) is uttered in a context where it is epistemically possible that Jones took arsenic. That would be Portner's strategy, which we will turn to soon.

Other ways of allowing (2) are analyses that weaken the subjunctive presupposition. (KP) allows (2) since it only demands that the truth of p is not established, which is clearly the case here. All of the variants of Stalnaker's analysis that we have considered allow (2) as well.

But, after we have seen that (S) needs to be abandoned or heroically rescued, in a way the big challenge is to explain why (2) is the only reasonable way of formulating the argument here. Stalnaker points out that (2) could not be used to the same purpose if it was in the indicative:

(2') #If Jones took arsenic, he shows just exactly those symptoms which he does in fact show.

The indicative version seems fatally trivial in some sense. Of course, Jones shows exactly those symptoms that he shows. To make this intuition into an explanation, we will see that we need to assume that the indicative conditional in (2') is interpreted with respect to a domain that is entirely within C.

The consequent *Jones shows exactly those symptoms that he does in fact show* expresses a proposition that is true in any world where Jones shows exactly those symptoms that he shows in the actual world: let us abbreviate this as $w'.s_w(w')$ "Jones shows in w' the same symptoms that he shows in w ." For any world w' in C we know that Jones is showing the same symptoms as in w , since the kind of symptoms he is showing is an established fact: $w' \in C: s_w(w')$. The conditional in (2') is true in a world w iff for all worlds w' in $D(w)$ $p: s_w(w')$. But now we assume that the use of the indicative somehow let's us infer that $D(w) \subseteq C$. Therefore, (2') is automatically true. Thus, it could not be informative.

It is crucial here that we use the strong condition that **all** relevant p-worlds are in C. If we just had (I), that **some** relevant p-worlds are in C, or p is epistemically possible, it could be that some other relevant p-worlds are outside C and thus the triviality result would not obtain.

Karttunen & Peters therefore do not seem to have an explanation for why (2') is bad. For them, (I) is the condition on indicatives: the indicative merely presupposes that it is epistemically possible that Jones took arsenic. For them, counterfactuals must be subjunctive. Non-counterfactuals should freely occur in either indicative or subjunctive form. So, we can dismiss that part of Karttunen & Peters that concerns the indicative as too weak.

But wait, there is a problem for Stalnaker's account as well. In a way, (2) may be predicted to be informative after all. Granted that the consequent is trivially true. But (2') presupposes, via the compatibility presupposition, that it is epistemically possible that Jones took arsenic. So, a speaker might want to use (2') to force her audience to infer via presupposition accommodation that she takes it to be possible that Jones took arsenic. But, it seems that (2') cannot be used in such a way.⁶ Why?

It seems reasonable to suppose that there is a presumption that anyone who uses a conditional *if p, q* assumes that the domain of quantification contains both q-worlds and non-q-worlds, a presumption of "consequent variety" one

⁶This is one of two critical points concerning Stalnaker's analysis that Stanley Peters makes in a letter to Irene Heim dated June 9, 1982, which Heim allowed me to consult.

might say.⁷ Violations of this presumption are allowed - which makes us say that it is not strictly a presupposition but a more easily cancelable ingredient of meaning. It is however typically preferred that a violation is explicitly signaled: such constructions are known as concessive conditionals or semi-factual conditionals. Some familiar varieties look like this:

- (2") a. Even if Jones took arsenic, he still shows exactly those symptoms which he does in fact show.
- b. Whether or not Jones took arsenic, he does show exactly those symptoms which he does in fact show.

Such conditionals would also be useless in the argument in (2), since they would not support the likelihood of *p* when compared with non-*p*. But they would in fact be usable to convey that the speaker admits the possibility that Jones took arsenic.

Let me retell the analysis of (2): We are presupposing the truth of the consequent *q*. We are saying that any *p*-world in the domain is a *q*-world, and hence it might be reasonable to assume that *p* is true. But when we want to use *if p, q* in that argument, we can only do so if the contextual domain includes non-*q*-worlds, otherwise the conditional would be trivially true. Since we presuppose that *q* is true, we need to select a domain that is partly outside the context set. Then, by (ST)/(VF) we can't mark the conditional as indicative and thus we are forced to mark the conditional as subjunctive.

As McCawley (1996: 86) points out, the sentence would actually be falsified if Jones had taken arsenic but is only displaying atypical symptoms of arsenic poisoning. While it is thus true that he took arsenic and trivially true that he is showing the symptoms that he is showing, the sentence can plausibly be judged false. The explanation on our analysis is that by enlarging the domain we have strengthened the claim that (2) makes. It will only be true if all worlds in the domain where Jones took arsenic are such that he is showing the same symptoms as in the actual world. But arguably, the first worlds that are added to the domain when it is enlarged beyond the context set are worlds where things happen according to the usual medical "laws". In terms of sets: worlds where victims of arsenic poisoning show the typical symptoms thereof. Hence, if Jones isn't actually showing those symptoms, the universal claim of (2) will be falsified.

So, Stalnaker's analysis and my variant are alive. Karttunen & Peters have problems. Now, back to Portner's rescue attempt in favor of (S). Portner (pc) suggests that for (2) to be felicitous, the "context must somehow make available the hypothesis that the antecedent is false". He says that he agrees (2) "would typically be used to support an argument that Jones took arsenic, but I don't think that it fits into just any such argument:"

⁷This is presented as a felicity condition in Kratzer (1978).

- (3) a. Did Jones take arsenic? If Jones had taken arsenic, he would have shown just exactly those symptoms which he does in fact show. [So, it is likely that he took arsenic].
- b. I will claim that Jones took arsenic. ??If Jones had taken arsenic, he would have shown just exactly those symptoms which he does in fact show. [So, it is likely that he took arsenic].
- c. **better:** I will claim that Jones took arsenic. If Jones took arsenic, he should have shown just exactly those symptoms which he does in fact show. [So, it is likely that he took arsenic].

Portner thinks that “the question in (3a) causes us to split the context into two hypothetical ones, and the counterfactual is interpreted with respect to the one which entails that he didn’t take arsenic. In contrast, with (3b) there’s no available common ground which entails that he didn’t.”

This seems like a reasonable analysis, with some intriguing examples. To make it work, Portner would also have to assume (ST)/(VF) to rule out (2). Portner makes it sound as if (2) is operating entirely within C, but just from a particular viewpoint within it. But then, of course (2) would be trivially true, as demonstrated above. So, even Portner will have to admit that the domain of quantification here must include some worlds outside C. It is just that in his analysis, the subjunctive marking has nothing to do with the fact that worlds outside C are in the domain of quantification.

Next we consider a kind of fact that shows that the presupposition of the subjunctive is not directly about the antecedent p at all. This will allow us to dismiss (KP) once and for all.

6. Subjunctive Passages

Consider sequences of subjunctive conditionals:

- (4) If it had rained yesterday, we would have stayed home. And, if we had stayed home yesterday, we would have watched the Red Sox game on TV.

Here, we are counterfactually assuming that it rained yesterday. In that case, we say we would have stayed home. The message is that we didn’t in fact stay home. Then, we say that in all of those counterfactual scenarios where we stayed home, we watched the Red Sox game on TV. Nothing too fancy here. But now consider:

- (5) If Polly had come to dinner tonight, we would have had a good time. If Uli had made the same amount of food that he in fact made, she would have eaten most of it.

It should be clear that in the second subjunctive conditional it cannot be that we are presupposing that it is false in the actual world that Uli made the same amount of food that he made in the actual world. So, the antecedent can't be counterfactual. So far, this looks like Anderson's example.

The example in (5) is consistent with the versions of Stalnaker's analysis considered above. They just demand that there are **some** relevant *p*-worlds outside the context set, or, even weaker, that there are some counterfactual worlds under consideration. Here, we are talking about counterfactual worlds where Polly came to dinner. Hence, the subjunctive would be felicitous.

The example is inconsistent with both (S) and (KP). Clearly, it is not epistemically possible that Uli didn't make the amount of food he made. This shows that the subjunctive presupposition does not concern the epistemic status of the antecedent *p* at all, it concerns the epistemic status of the domain of quantification or the domain of relevant *p*-worlds.

Portner (pc) admits that his version of (S) would have to be amended:

(S') subjunctive: $p \text{ D}(w) \text{ C} = \dots$

That is, what is presupposed is not that *p* is counterfactual, but that there no **relevant** *p*-worlds in C. That takes care of (5), since in fact all of the relevant *p*-worlds in the second conditional are counterfactual worlds where Polly came to dinner.

7. Modus Tollens

Stalnaker discusses another kind of apparently non-counterfactual subjunctives.⁸

- (6) The murderer used an ice-pick.
 But, if the butler had done it, he wouldn't have used an ice-pick.
 So the murderer must have been someone else.

Here is a Stalnaker-type analysis. In a *modus tollens* argument (*q*; if *p*, not *q* not *p*), by virtue of the content of the first premise, we are presupposing that all context worlds are *q*-worlds. If we now selected a domain that contains only worlds from the context set for the evaluation of *if p, not q*, we would again violate "consequent variety", since there wouldn't be any non-*q*-worlds in the domain. Hence, we are forced to select a domain that is partly outside the context set. But by (ST) that kind of domain selection forces subjunctive marking.

Portner (pc) again has a story about (6) that involves splitting the context set. He thinks "that for this to be good, the possibility that the butler

⁸He acknowledges discussion with John Watling on this point, to whom he also attributes the example in (6).

didn't do it must have been raised. ... This means that the argument has the following structure”:

(7) a. Who did it? Maybe the butler.

[Right now we have context C, which allows that maybe the butler did it and maybe he didn't.]

b. I will argue that it was not the butler.

[My aim: to get you to accept the context C' which entails that the butler didn't do it. The next two sentences are uttered with respect to C'.]

c. The murderer used an ice-pick.
But, if the butler had done it, he wouldn't have used an ice-pick.

[This results in contradiction. So, assert with respect to the whole of C:]

d. So the murderer must have been someone else.

Again, this seems like a likely story. So, Portner's variant on (S) is still alive.

Stalnaker again notes that there is something odd when we try to put (6) into the indicative:

(6') The murderer used an ice-pick.
#But, if the butler did it, he didn't use an ice-pick.
So the murderer must have been someone else.

It is easy to see why that should be so under Stalnaker's analysis. The argument in (6') is self-contradictory: it is first claimed that the murderer used an ice-pick, but then it is claimed that in all of the epistemically possible worlds in which the butler did it, he didn't use an ice-pick. Now, since the conditional presupposes that there are in fact worlds in the domain where the butler did it, there are then claimed to be worlds in the domain where no ice-pick was used, contrary to the first premise.

I can't see how Portner can explain the badness of (6'). He would predict that indicative and subjunctive would be equally good here, depending on which side of the context split one is situating oneself. So, what he would need to explain is why the subjunctive is strongly preferred here. Even if we make clear that we see things from the point of view of that half of the context where the butler did it, we don't seem to be able to use the indicative:

- (7) Who did it? Maybe the butler.
Well, let's assume the butler did it.
We know that the murderer used an ice-pick.

?: If the butler did it, he didn't use an ice-pick.

OK: If the butler had done it, he wouldn't have used an ice-pick.

So, the murderer must have been someone else.

I think that these data suggest that the use of the subjunctive is not conditioned by (S) plus context split. These data are in accordance with Stalnaker's analysis and my variant, where the subjunctive either marks that some relevant p-worlds are outside the context set (SS) or that it is possible that some relevant p-worlds are outside the context set (SS'), or lastly that some of the worlds in the domain of quantification, not necessarily any p-worlds, are outside the context set (VF').

8. Peters' Case

Stanley Peters (in the letter to Heim mentioned in footnote #4 above) constructs a kind of case where it seems that indicative and subjunctive can equally naturally appear with apparently the same interpretation. I present it here, adopting some emendations of Heim's:

- (8) X: Kennedy was shot by a lone gunman.
Y: Kennedy was shot by two gunmen.
- Z: Look guys. You gotta admit this. If two gunmen had shot Kennedy, then two guns would have been found. So let's find out how many were in fact found. Perhaps, that's going to get us somewhere.
- Z': Look guys. You gotta admit this. If two gunmen shot Kennedy, then two guns must have been found. So let's find out how many were in fact found. Perhaps, that's going to get us somewhere.

Karttunen & Peters of course would have no problem with this, since they predict that whenever it is still both possible that p and that not p, either kind of conditional can be used. We saw however that their weak theory is already ruled out by the other kinds of data we considered.

Portner might think he has a field day with this example. There are three relevant context sets here: C_0 , where it apparently has only been established that Kennedy was shot. That is the only true common ground of all of X, Y, and Z. C_1 , the worlds that X believes in, in all of which Kennedy was shot by a lone gunman. C_2 , the worlds that Y believes in, in all of which Kennedy was shot by two gunmen. C_1 and C_2 are contained in C_0 . When the mediator intervenes in (8), she has a choice: assume that it is presupposed false that two gunmen shot Kennedy, by working from the perspective of C_1 , thereby

leaning towards X's point of view, and thus use the subjunctive; or, assume that it is not presupposed false that two gunmen shot Kennedy, by working either from C_0 or from C_2 , thereby either leaning to Y's point of view or remaining neutral.

Any theory that predicts complementarity of subjunctive and indicative and that does not want to employ Portner's splitting of context sets is doomed by this kind of example. Within the Stalnaker-family of proposals, we have to dismiss (SS), which demands that there are some relevant p-worlds outside the context set. Since the context set in Peters' example is huge - after all it contains all worlds in which Kennedy was shot - it will contain all p-worlds. Any world in which Kennedy was shot by two gunmen is a world in which Kennedy was shot and hence is in the context set. If the subjunctive marked the fact that there are p-worlds outside the context set, it would be unusable here (unless we perform a context-split).

We can do without a context split if what we assume is (SS'), where the subjunctive just **allows** there to be p-worlds outside the context set, or (VF'), where the subjunctive just says that the domain of quantification is partly outside the context set.

Here is where I think (VF') has a **slight** advantage. My judgment about Peters' example is that the use of the subjunctive is the more diplomatic way of mediating here.

Portner would predict that the indicative is more diplomatic, since it is the mood used from the perspective of C_0 , the minimal common ground without a nod to either X or Y, or if at all with a nod to Y. The subjunctive would under Portner's view count as leaning towards X's perspective. If it is true that the subjunctive is the preferred diplomatic locution here, we need a different analysis.

What I would like to say is this. (VF') says that the subjunctive signals that there is a domain of quantification which contains at least some worlds outside the context set. X is free to interpret that as meaning that the mediator leans towards the notion that p is false, and that hence a bigger domain is needed. Y is free to interpret the subjunctive as meaning that the mediator does not want to offend X by using the indicative which would directly signal that p is possible. The indicative would clearly be a signal that Y is being taken on an equal footing, potentially upsetting X. The subjunctive is diplomatically neutral.

Under the perspective of (VF'), where the subjunctive marks that the domain of quantification is partly outside the context set, the following possibilities are open:

- the antecedent is counterfactual,
- the domain of quantification is widened for some other reason,
- we want to avoid a direct signal that the antecedent is epistemically possible.

Peters' case in (8) would fall under the latter.

9. Conclusion⁹

No theory that predicts complementarity of subjunctive and indicative is alive. Karttunen & Peters' analysis is too weak. Portner's contextually sophisticated version of (S') is (barely) alive.

The nicest surviving theory is close to the one that Stalnaker proposed: (ST) or its variant (VF) is the pragmatically natural default. The indicative is semantically vacuous. The subjunctive marks by (VF') that the domain of quantification is partly outside the context set:

D(w) is not included in C.

I will cite the relevant passage from Stalnaker's paper to end the paper. The discussion is probably too terse to make sense of on first reading, but I hope that the preceding exploration will have made it understandable.

10. Bonus Quote

Stalnaker sets his discussion in the framework of his own analysis of conditionals, which relies on a selection function that for any antecedent p will select a particular p -world in which the truth of the consequent is checked:

"The idea is that when a speaker says 'If A ', then everything he is presupposing to hold in the actual situation is presupposed to hold in the hypothetical situation in which A is true. ...

"The motivation of the principle is this: normally a speaker is concerned only with possible worlds within the context set, since this set is defined as the set of possible worlds among which the speaker wishes to distinguish. So it is at least a normal expectation that the selection function should turn first to these worlds before considering *counterfactual* worlds - those presupposed to be non-actual. Conditional statements can be directly relevant to their primary uses - deliberation, contingency planning, making hedged predictions - only if they conform to this principle.

"Nevertheless, this principle is only a defeasible presumption and not a universal generalization. For some special purposes a speaker may want to make use of a selection function which reaches outside of the context set, which is to say he may want to suspend temporarily some of the presuppositions made in that context. He may do so provided that he indicates in some way that his selection function is an exception to the presumption. Semantic determinants like domains and selection functions are a function of the speaker's intentions; that is why we must allow for exceptions to such pragmatic generalizations. But

⁹There are some curious examples of indicative conditionals:

- (i) a. "Martin has solved Fermat's Puzzle!" "If that is so, then I'm Gödel's uncle!"
- b. "John is very smart!" "If he's so smart, he should be able to figure out this problem!"
- c. If you are thirsty, there is beer in the fridge.

What should we say about these? Are these possible as subjunctives?

they are a function of the speaker's intention to *communicate* something, and that is why it is essential that it be conveyed to the audience that an exception is being made.

"I take it that the subjunctive mood in English and some other languages is a conventional device for indicating that presuppositions are being suspended, which means in the case of subjunctive *conditional* statements, that the selection function is one that may reach outside of the context set. Given this conventional device, I would expect that the pragmatic principle stated above should hold without exception for indicative conditionals.

"In what kinds of cases would a speaker want to use a selection function that might reach outside of the context set? The most obvious case would be one where the antecedent of the conditional statement was counterfactual, or incompatible with the presuppositions of the context. In that case one is forced to go outside the context set, since there are no possible worlds in it which are eligible to be selected. But there are non-counterfactual cases as well. Consider the argument, 'The murderer used an ice-pick. But if the butler had done it, he wouldn't have used an ice-pick. So the murderer must have been someone else.' The subjunctive conditional premise in this *modus tollens* argument cannot be counterfactual since if it were the speaker would be blatantly begging the question by presupposing, in giving his argument, that his conclusion was true. But that premise [reaches outside the context set], since the consequent denies the first premise of the argument, which presumably is accepted when the second premise is given.

"Notice that if the argument is restated with the conditional premise in the indicative mood, it is anomalous.

"My second example of a subjunctive non-counterfactual conditional ... is adapted from an example given by Alan Anderson many years ago. 'If the butler had done it, we would have found just the clues which we in fact found.' Here a conditional is presented as evidence for the truth of its antecedent. The conditional cannot be counterfactual, since it would be self-defeating to presuppose false what one is trying to show true. And it [has to reach outside the context set since if it didn't], it would be trivially true, and so no evidence for the truth of its antecedent. Notice, again that when recast into the indicative mood, the conditional seems trivial, and does not look like evidence for anything."

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