

Conditionals, Supposition, and Euthyphro

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Abstract

Williamson proposes that a "suppositional procedure" is a central heuristic we use to evaluate the truth of conditionals, though he also argues that this method often leads us astray. An alternative approach to the link between supposition and conditionals is to claim that we are guided by our antecedent conditional judgements in our supposing, and in particular in our determining which things follow from an initial supposition. This alternative explanation of the close link between conditionals and supposition is developed and compared to Williamson's proposal.

Suppose and Tell is a rich book, full of provocative arguments, and it leads the charge in revitalising a material-conditional account of indicative conditionals, as well as a strict-conditional account of counterfactual conditionals. It does so in tandem with a powerful error-theory: any rejection of an indicative conditional with a false antecedent, for example, is an error, and it is an error even though our primary heuristic that guides our acceptance and rejection of conditionals often tells us to reject those indicatives.¹ It comes during an explosion of important and exciting work on conditionals, and it will shape the questions philosophers ask about conditionals, the sources of evidence they will feel compelled to take notice of, and the sense of the philosophical landscape writers on conditionals will share.

My purpose here is not to criticise Williamson's conclusions about the truth-conditions of conditionals directly, though I do not share his views about those conditions. Instead, I want to focus on one of the key desiderata Williamson identifies for a successful theory of conditionals. That desideratum is that our theory of the semantics, pragmatics and heuristics of conditionals should be unified in an appropriate way with our theory of *supposition*. I think Williamson is right that our linguistic and mental practices of supposing have interesting and deep links to our practices of producing and defending conditional utterances, and entertaining the mental states associated with conditional utterances. I will suggest a quite different way of linking conditionals to suppositions than the one

¹ Material-conditional accounts the truth-conditions of indicative conditionals are experiencing a resurgence: for another recent defence, see van Inwagen 2022.

Williamson outlines and defends. These differences in detail should not obscure the more general point of agreement, or hide the great service Williamson has done to the literature on conditionals by stressing the link with supposition.

1. Supposition-first and Conditionals-first Approaches

A key theme that runs through Williamson's discussion is the close link he sees between our practices of supposition and our practices of accepting or uttering conditionals. The link Williamson points to is our use of what he calls the *suppositional procedure* when evaluating conditionals. Williamson claims the suppositional procedure is "humans' primary way for prospectively evaluating conditionals" (p 21). For now I will focus on the procedure as it applies to indicative conditionals, though Williamson holds a related version of his procedure applies to counterfactual conditionals as well (p 200-207, especially p 201). For indicative conditionals, Williamson's suppositional procedure for assessing a conditional of the form "if A, C" is the following:

First, suppose A. Then, on that supposition, develop its consequences by whatever appropriate means you have available: constrained imagination, background knowledge, deduction, If the development leads to accepting C conditionally, on the supposition A, then accept the conditional "If A, C" unconditionally, from outside the supposition. If instead the development leads to *rejecting* C conditionally, on the supposition A, then reject "If A, C" unconditionally, from outside the supposition. (p 18)

Williamson extends suppositional procedures to other attitudes to conditionals and conditional attitudes, but let us focus first on the link between supposition, on the one hand, and accepting or rejecting indicative conditionals, on the other.² I will turn to counterfactual conditionals and supposition on <p 9>.

There are two closely linked phenomena associated with exploring suppositions. One variety is the mental state we are in when we suppose, and related mental states that we are in when we develop a

² Williamson also extends the suppositional rule to conditionals on the assumption of other premises/assumptions in chapter 3, especially 3.4. It is this suppositional rule, on the basis of assumptions BB, which he puts together with a suppositional rule for "would" to yield his account of supposition and counterfactuals.

supposition, or entertain a hypothesis, or engage in hypothetical reasoning from some starting point. The other variety consists of a range of linguistic phenomena: utterances like "I suppose that...", or imperatives like "Suppose..."; putting forward hypotheses or uttering inferential steps from hypotheses ("Well, then, ..."). The linguistic moves of uttering these suppositional sentences, development and evaluation of hypotheses, etc. are clearly closely related to our use of conditionals. Or, more cautiously, at least some of our uses of conditionals. "What if...?" is a classic way to introduce consideration of a supposition.

We do many important things with suppositions, but one thing we do is draw out consequences from what we suppose. "Suppose James wins the lottery. Then James will be very excited." or "Suppose the Portuguese were the first European settlers in Australia. Then much of what we assume about early European settlement of Australia is (/would be) mistaken." (and/or) "Suppose the Portuguese were the first European settlers of Australia. Then that settlement must have been unsuccessful and short-lived". These consequences are obviously not just *deductive* consequences—logic alone does not require James's excitement upon winning the lottery. These "consequences" of suppositions are supposed in turn. Assuming our conversational partners assent, we continue to develop the first supposition above in much the same way as we would develop a starting supposition that James wins the lottery and then is very excited. I will talk of these things that are consequences of a supposition *in this sense* as those which "follow from" that supposition. In this context, I am using "follow from" to capture this phenomenon, and it should not be confused with claims about what follows from what in e.g. a given deductive logical system.

I would suggest that the acceptability of these "consequences" of suppositions goes along with the acceptability of associated conditionals, at least in many cases. Just as, on the supposition that James wins the lottery, James will be very excited, it would also be fine to assert "if James wins the lottery, he will be very excited". Likewise for conditionals about the Portuguese being the first European settlers of Australia. We will need to distinguish drawing out consequences of a supposition from *supplementing* that supposition in other ways. We can add to the contents of our suppositions by, in effect, supposing additional conjuncts. If you suppose London Zoo acquires a woolly mammoth for display you can go on, if you like, to suppose that they also acquire a velociraptor for display. Even if you do so, you should not think that it *follows from* the supposition that London Zoo acquires a woolly

mammoth that they acquire a velociraptor. The latter is not just drawing out something from the first supposition. (And this is reflected in the conditionals we are prepared to accept: we would not normally accept that if London Zoo acquires a woolly mammoth, they also acquire a velociraptor.)

There are at least two general approaches to explaining this link between suppositions and conditionals (and many other putative links besides). One approach is exemplified by Williamson's theory: that a central heuristic for judging a conditional to be correct is whether on the supposition of the antecedent, the consequent is accepted on that supposition. (Williamson operates with a notion of accepting on a supposition (p 19), as well as a range of other attitudes that one can have on a supposition as well as "unconditionally".) If we use suppositions as a central guide to conditionals, that would explain why we see ourselves as able to go from one to the other.

We would retain an important part of that explanation even if, like Williamson, we were to adopt an error theory about the *accuracy* of this heuristic. Williamson takes the heuristic to tell us to accept if A, C, *just in case* we accept C on the supposition that A (p 19): so, for example, when we would not accept C on the supposition that A, the heuristic counsels not accepting "if A,C". Williamson offers a similar heuristic for rejection: if we would reject C on the supposition that A, we should reject "if A, C". On the supposition that my roof is collapsing, I would not accept, and would reject on that supposition, the proposition that all my possessions will be unharmed. But, since my roof is in fact not collapsing, Williamson thinks my utterance of "if my roof is collapsing, my possessions will all be unharmed" is *true*. For Williamson, this is a typical example of how the heuristic leads us astray—it will lead us astray whenever it leads us to reject an indicative conditional with a false antecedent. However, Williamson has an explanation available of why I am disposed to reject conditionals like this: it is because a central part of my evaluation of conditionals like it employs the suppositional procedure. While his account predicts we reject many true conditionals, it may still do a good job of predicting our patterns of acceptance and rejection for all that.

A different approach to conditionals that puts supposition at the heart of the theory is Dorothy Edgington's so-called "suppositional" theory of conditionals (Edgington 1986, 1995).³ On Edgington's

³ There is a family of other suppositional approaches to conditionals, including at least Barker 1995 and Barnett 2006, 2010. Many of them, including Edgington, draw comfort from Mackie 1972 p 92-93, who says that the key to understanding conditionals is to see them as asserting the consequent under the supposition of the antecedent. For a recent approach identifying as belonging to this tradition, see Carter 2021.

view, our central procedure for evaluating indicative conditionals is to suppose the antecedent, and judge the truth-value of the consequent on that supposition. Edgington suggests very different truth-conditions for indicative conditionals than Williamson. According to her, only indicative conditionals with true antecedents have truth-values: true if the consequent is also true, and false if the consequent is false. Indicative conditionals with false antecedents lack truth-values. For Edgington asserting a conditional is a "conditional assertion": if the antecedent is true it asserts the consequent, but makes no assertion otherwise. Edgington's account of so-called counterfactuals is related to her account of indicatives: in Edgington 1995 section 10 she tentatively treats many of them as being appropriate if the corresponding indicative would have been at the time of the antecedent, though she appears to hold that counterfactuals lack truth conditions altogether (p 321).

A quite different way to go to explain the connection, however, is to claim that we use our judgements of conditionals to inform us about which suppositions' "consequences" are correct and which are incorrect. To make a specific proposal, "On the supposition that A, C" is true just in case "if A, C" is true, and it is our implicit or explicit judgement of "if A, C" that explains which suppositional consequences are correct and which are not. Furthermore, this proposal helps explain which suppositional consequences we *take* to hold, via our conditional judgements. As a first pass, we accept C on the supposition that A when, and only when, we are willing to accept the corresponding conditional. But it is the attitude to the conditional that explains the supposition, not the other way around.

What we take a supposition to involve and what it in fact involves can come apart when we make factual errors about the topic of the supposition. Mervin might think it follows from the supposition that he enters the race that he will easily win, just as he might think that if he enters the race he will easily win, but he can be wrong about both if he is in fact much slower than another entrant. So the truth-values of indicative conditionals do not always track what people *take* to be appropriate acceptances on supposition, but the truth conditions of those conditionals can still play a central role in explaining why people engage in the suppositional transitions they do.

Call theories that claim we use supposition to guide our acceptance of conditionals "supposition first" views, and theories that claim we use our judgements about conditionals to guide our acceptance claims

about what follows from suppositions, or acceptance of transitions we make under suppositions, "conditionals first" views. The version of a conditionals-first view that I will be exploring gives conditionals at least two roles in explaining supposition: as providing truth-conditions for suppositional claims e.g. of the form "Suppose X, then Y", and in providing a psychology of supposition and judgement about suppositions that is closely tied to the psychology of conditional judgement. (I will not be too precise about what that psychological tie is: perhaps the same psychological mechanism is used for both, or perhaps conditional judgements are a primary influence of judgements about what suppositionally follows from what. There seem to be a range of options here.)

While I am going to explore a conditionals-first approach to supposition, in contrast to Williamson's supposition-first theory, reasonable readers are probably already wondering why either of these phenomena needs to be in the driving seat. We tease out suppositions, and we judge the truth of conditionals, and sometimes either of those activities can influence the other. We can accept all of that without thinking *either* that suppositional reasoning is a primary guide for conditional judgements *or* that conditional judgements are a primary guide for suppositional reasoning. Why not treat both of them as coeval? Or why not explore jointly accounting for both kinds of judgements in terms of some third psychological or social process?

I agree that a theorist should theorise about suppositions and conditionals together, without trying to do either "first". As theorists, we should of course use all the information we have available to us: information about suppositions, and information about conditionals, and information about anything else that seems relevant. But I do think it makes sense to explore hypotheses that typical evaluation of conditionals tend to proceed by noticing what supposition we engage in, or alternatively that which patterns of supposition we engage in reflects our beliefs about conditionals. A heuristic, in either direction, can be typical even if theorists should not stop with employment of the heuristic. (The "Euthyphro" of the title concerns the question of the direction of explanation between suppositions and conditionals. Is "Suppose A, C" correct because "If A, C" is correct, or is it the other way around? In fact, of course, there is a family of questions here corresponding to different kinds of "correctness" we are interested in: whether one is true when the other is, or whether judging one is a central heuristic trigger for the other, or whether there is some other normative connection between one being appropriate to say or judge and the other being appropriate.)

Neither Williamson nor I think the relevant primary heuristic is the *only* method by which we come to conditional judgements (or acceptance under suppositions, for that matter). Williamson is explicit that we use other means as well: testimony, for example (chapter 5), or deductive inference from certain universal generalisations. So a full story would need an account, not just of when we use a supposition-conditional connection, but when we do not (and even when we do, or may, override whatever heuristics link supposition and conditionals). I would hope that, beyond the question of heuristics, there should be explanatory linkages between conditionals and supposition (in one or both directions): perhaps we could explain a cognitive function of supposition or conditional thought partly in reference to the other phenomenon. Or how the underpinning of conventions governing public language expressions like "if" or "what then?" might be secured. Some of these questions go beyond the task Williamson sets himself, and will go beyond the scope of this paper as well.

2. Supposition In Terms of Conditionals

What would understanding supposition via conditionals look like? There are probably many ways to try to understand supposition in terms of conditionals, so this will be a presentation of one promising approach. Those with different opinions about conditionals would likely develop different conditionals-first approaches to supposition. I will begin with discussion of indicative conditionals and their associated suppositions, before discussing a closely related approach to suppositions connected with counterfactual conditionals.

The simplest case is when we first suppose something, and think about what follows. Some bank robbers are discussing their plan to rob a particular bank branch the next day. (Don't try this at home!) Jane says to the group "Suppose one of us gets caught? Then what?" There are appropriate ways and inappropriate ways to develop the supposition. "Well, then, we are all in danger of getting caught" might be appropriate. "Then we can just escape using inflatable pterodactyls" would not be straightforwardly appropriate—maybe we could make sense of it as a sarcastic dismissal of the question, or as a joke to lighten the mood, but if it were said in full seriousness the robbers might have to be concerned about their colleague's grasp of the situation.

Once an initial consequence is identified, conversation can move on to further consequences. Consider a scenario where Jane's question gets the reply "then the police will want information from whoever they caught". A further appropriate contribution might be "whoever is caught can stall by asking for a lawyer". Which developments are appropriate depends on the facts surrounding the robbers and the bank. Developing the supposition in terms of the police might turn out to be a mistake if it's not the *police* who would be doing the catching.

We can distinguish different standards for appropriate development. I think "On the supposition that A, B" is the kind of claim that can be true or false, but even if it not truth at stake there is a kind of correctness that can be borne out if A and B turn out to be true. (If one of the bank robbers is caught, the police demand information from her, and she stalls by asking for a lawyer, there is something right about the corresponding suppositions mentioned.) It may be that claims about what follows from false suppositions can also be vindicated, though not as directly.

As well as truth, or something truth-like, there is also something justification-like. If I think on Monday that, on the supposition that I go to the gas station tomorrow and buy a lottery ticket, I will win a lot of money, and then on Tuesday, *mirabile dictu*, I go to the gas station, buy a lottery ticket, and win, then my supposition seems to have been correct, in one sense. But it was still a silly thing to take to follow from the supposition: lottery tickets mostly lose. We can justifiably think things follow from a supposition even when they do not, and lack justification for taking something to follow from a supposition even when they do. No doubt there are different theories that can be developed of both the truth-like status and the justification status (or justification-like status) for suppositional following. A conditionals-first story has one ready to hand: truth and justification here track truth and justification for conditional judgements. A supposition-first account needs to look elsewhere to explain how supposition is done properly.

One interesting question is the question of what it takes to go from "Supposing A, B" to "Supposing A, C". Often we will see these connections by seeing a connection between B and C, or at least seeing that there would be a connection on the supposition that A. (Maybe Prisha and Rav have in fact never met, but on the supposition both that they do everything together and Rav is going hiking, Prisha is going hiking.) A general theory of when one of the suppositional transitions is correct can be given by saying

it is correct when the corresponding transition between conditionals (from "if A, B" to "if A, C") is correct. Filling out that theory would require a general theory of when transitions from one conditional to another is correct, which is of course a big question, albeit one we had to tackle in any case to give a full theory of conditionals.

B logically entailing C is not always sufficient for being able to transition from "Supposing A, B" to "Supposing A, C". "Supposing that no disjunctions are true, no disjunctions are true" looks reasonable enough. "Supposing that no disjunctions are true, either no disjunctions are true or all disjunctions are true" looks bad: once you suppose no disjunctions are true, no disjunctions should be true on that supposition. One response to this observation would be to look for a non-classical "logic of supposition", specifying those cases where the right kinds of deductive transitions between suppositions are guaranteed. I suspect that would not be a successful way to go: counter-logical suppositions are likely to be counterexamples to tempting principles of supposition transitions.⁴ A better way to go would be to take these transitions to correspond to transitions between non-trivial counterpossible conditionals that allow for scenarios that are arbitrarily impossible, such as that suggested by Nolan 1997 for counterfactual conditionals, and the equivalent for indicative conditionals. (Perhaps not surprisingly, my preferred treatment for truth-conditions for counterpossible indicative conditionals extends Nolan 2003 with the impossible worlds of Nolan 1997 in the natural way.)

Williamson argues that using suppositional procedure will trip us up when it comes to counterpossible conditionals, particularly in the counterfactual case. Williamson argued for this before the current book (Williamson 2016, Williamson 2018), and suggests that his thinking along these lines led to the lines of thought underpinning *Suppose and Tell* (Williamson 2020 p v). Evaluating Williamson's approach to counterpossible counterfactual and indicative conditionals is a task for another time, but I do want to note that a view of supposition like the one just sketched above seems in little danger that it will undermine our confidence in the judgements many share that counterpossibles are non-trivial.

4 The most promising approach might be a non-monotonic logic of supposition, analogous to the non-monotonic logic Badura and Berto 2019 presents as a logic of fiction, to deal with the fact that standard logical principles may fail in fictions where suitably logically impossible things happen. Berto 2022 chapter 5 offers a treatment of supposition with a more restricted range of worlds, but extended in the direction of Badura and Berto 2019 it would capture a lot of what we want.

Somehow or other, we want to ensure that the suppositions typically associated with indicative conditionals and the suppositions associated with counterfactual conditionals come apart: if Kennedy hadn't died in November 1963, he would have been president in 1964, but if Kennedy *didn't* die in November 1963, he was somehow secretly spirited away and Johnson was president in 1964 after all.⁵ Williamson achieves this by combining a suppositional heuristic for "would" with a suppositional heuristic for "if". The difference between the supposition associated with "if A, it was the case that B" and "if A, it would have been the case that B" is that while in both cases we suppose A, in the second case we suppose together with A two other things. The first is a set of sentences 'BB', capturing suppositions already in force, and an additional proposition 'R', which amounts to a summary of the information which the context of supposition supplies as characterising the nearby possibilities relevant for what *would* happen. Then we see whether we accept B, conditional on that joint supposition. (Williamson p 201). (There is one more ingredient in Williamson's suppositional account, involving "modal distancing" of the interpretations of R and A, but I set it aside for the tractability of discussion.)

At a first pass, I prefer to think that there are at least two *kinds* of supposition we can engage in when supposing a proposition. One kind of supposition is indicative, which is the one I have been implicitly focusing on so far. But another is hypothetical, and is more closely related to counterfactuals. Hypothetical suppositions tend to leave more up for grabs and allow us to set aside more of what we know of the actual world: hypothetically supposing Kennedy was not killed leaves it open to us to suppositionally rewrite subsequent history in ways that indicative supposition does not, for example. Indicative supposition is more "realistic" in some ways—we use more of what we believe about the real world when fleshing it out. But hypothetical/counterfactual supposition is not free floating: we still rely on a lot of what we know both about general regularities and particular facts, even if we feel more free to disregard more things we know. (If we suppose, hypothetically, that Elvis Presley climbed Everest, in developing that supposition you can deploy many facts both about mountain climbing and about Everest, but you might set aside a lot of what you might know about Elvis's biography, including setting aside that he rarely left the USA and never got into shape for serious mountain climbing.)

Two important papers distinguishing indicative suppositions from what I have been calling hypothetical supposition, but which is sometimes called counterfactual supposition are Divers and Elstein 2012 and

⁵ Divers and Elstein 2012 p 122 and Williams 2012 pp 648-9 both appeal to Oswald and Kennedy cases to suggest there are (at least) two kinds of supposition. What I lose in originality I make up for in good company.

Williams 2012. "Indicative supposition" is similar to the kind of thing discussed in the literature on the Ramsey test for indicative conditionals. Ramsey suggests that people arguing about a conditional if p , q , are "adding p hypothetically to their stock of knowledge" and arguing about q "on that basis" (Ramsey 1929 p 155). It is natural to gloss this as some kind of *supposition* that p , and seeing whether on that supposition, q , as e.g. Bradley 2007 does. I am not convinced that the Ramsey test, and especially probabilistic elaborations of it like that proposed by Adams 1975, is exactly the right way to cash out indicative supposition, though it is certainly in the neighbourhood.

That sort of supposition is not the only sort we engage in. Divers and Elstein 2012 pp 122–129 draw attention to what they describe as the distinction between "A-supposition" and "C-supposition", following the jargon of "A-intensions" and "C-intensions" in discussions of two-dimensional semantics. "A-suppositions" are somewhat like indicative suppositions, though I will not stop to draw out any differences there might be. "C-suppositions", on the other hand, we are concerned with counterfactual dependence, according to Divers and Elstein (p 123): to work out whether on the (C-supposition) of A, B, we do something very much like seeing whether B counterfactually depends on A. Divers and Elstein seem to me conditionals-first theorists, of C-supposition at least, *avant la lettre*. Williams 2012 develops a related idea in a probabilistic framework, suggesting that we might use "counterfactual supposition" to make judgements about counterfactuals, by contrast to "indicative suppositions" for indicative conditionals. (Williams sees indicative suppositions as going along with indicative conditionals in something like the way suggested by the Ramsey Test.) While Williams thinks there are rational constraints linking supposition of both sorts and the opinions about the corresponding conditionals, and other matters as well, as I read him he does not ascribe priority to either.

Here is my own first pass at what I see as the difference, restricting attention in the first instance to suppositions about the past. When making indicative suppositions we feel free to supplement them with almost anything we know. If I indicatively suppose that there was a historical King Arthur, I can bring to bear a lot of the information I have about late Roman and dark age Britain: that there was eventually a successful Saxon takeover of southern Britain, that the Roman army largely evacuated Britannia by the mid-fifth century, and so on. I can add almost any of this information to appropriate suppositions: supposing there was a historical King Arthur, he could not have both met Augustus and fought Saxon

invaders, since the first Saxon invasions of Britain started many centuries after Augustus. I say "almost all" of what someone knows can be imported to their indicative supposition. A historian confident that Arthur was only a myth may take herself to know that there *was* no historical King Arthur. Still, if she engages in the supposition that there *was*, perhaps to show how difficult it is to sustain that supposition, she should not include in her supposition that there was no historical King Arthur. And that is so even if she is right, and does know that there was no historical King Arthur.

The main difference with counterfactual suppositions is that much less of what is known can be freely imported into the supposition. If I counterfactually suppose that there were a historical King Arthur, I can include in the supposition a range of general facts: facts about the geography of Great Britain, for example, or the fact that humans need oxygen to survive. But particular facts about dates of movements of Saxon armies or Roman administrators may be more up for grabs. It might be hard to see this from the bare supposition that there was a historical King Arthur, since that tells us very little else about when he lived or what he did. But if I suppose that most of the legends track facts about his real-life career, (a much greater supposition!) then on that supposition, for instance, there were a group of Knights of the Round Table. That seems to follow from the supposition even if I know there was no such group of knights. And if I suppose that most of the legends were *true*, then on that supposition there were powerful wizards with magical powers, Arthur led a great army to conquer many foreign lands, Arthur's knights probably found the Holy Grail... and many other things that I know did not actually happen.

Exactly what the rules are for what "follows" from a counterfactual supposition is a tricky question to answer. I think the answer is to be found in work on the truth-conditions of counterfactuals, especially in the "most similar worlds" approach developed by Lewis 1973 and Lewis 1979 and taken up by many others, though I would disagree with Lewis, and many of those others, on various details. I suspect that counterfactual supposition is often marked linguistically, at least in English, with subjunctives:

"suppose there had been a historical King Arthur... what would that have been like?" as opposed to "suppose there was a historical King Arthur... what was that like?". If these linguistic markers appear to be standard enough, we could also improve our understanding of counterfactual supposition through more direct empirical means, examining how competent supposers engage in the practice, and how they seek to correct others and themselves when new information comes in. Improving our

understanding of hypothetical/counterfactual supposition will be the work of many hands, just as work on the semantic value of counterfactual conditionals in contexts has been, and continues to be.

The rules for what follows from an indicative supposition need more spelling out than I have offered above. Again, our understanding of indicative conditionals can be our guide: if I am right, C "follows from" a supposition A, in the appropriate sense of "follows from", if and only if the corresponding indicative conditional "if A then C" is true. I offer more suggestions for truth-conditions of indicative conditionals, in a closest-world fashion, in Nolan 2003. Those who prefer a different account of indicative conditionals may be able to plug that in to give alternative rules for appropriate supposition. As with counterfactual supposition, there may be other ways to study indicative supposition more directly, especially if it has linguistic markers that let us distinguish it from hypothetical supposition. Direct study can give us information about what suppositional following-from claims speakers make and interlocutors accept, and also useful information about which claims they later think are mistaken as more information comes in, or the situation otherwise evolves. (I predict, for example, that if someone takes C to suppositionally follow from A, but later discovers A is in fact true but C is in fact false, they will take themselves to have been mistaken earlier.) Different kinds of infelicity will have to be distinguished, as usual: some suppositional claims are silly or pointless even if they are not incorrect, just as with conditionals.

One puzzle is how these two forms of supposition relate to each other when employing an antecedent about the future. If I indicatively suppose that aliens *do* land on Earth in 2100, how does this differ from hypothetically supposing that aliens *were to* land on Earth in 2100 (or *would* land on Earth in 2100, or however we are to phrase the hypothetical supposition)? In many cases, the two suppositions would be developed in very similar ways. (On either supposition, the aliens are technologically advanced, are likely already aware of us...) This puzzle parallels a more familiar puzzle in the literature on conditionals: the puzzle of telling apart "indicative" and "counterfactual" conditionals which have antecedents entirely about the future (and/or have "future tensed" antecedents), and whether we can even draw that distinction for these conditionals (see Jackson 1990). What makes the question even more complicated is that it is plausible that there are several different forms of counterfactuals about the future that may differ in semantic value (Ippolito 2013 ch 2). Investigation of hypothetical/counterfactual supposition is in its infancy, at least in the philosophical literature, but I

predict insight into the behaviour of counterfactual conditionals will yield corresponding insights about hypothetical supposition.

3. Context And A Conditionals-First Model

The kind of unified picture of supposition and conditional utterances I have been outlining requires conditionals with truth-conditions, or at least assertability conditions, close to the circumstances which speakers take to support suppositional transitions. While there is room in principle for an error theory about both suppositional practice and judgements of conditional correctness, it seems to me more straightforward to first see if we can vindicate both sets of practices.

One striking thing about supposition is that there seems to be different appropriate ways to develop a supposition, even within the categories of indicative suppositions and hypothetical suppositions. Sometimes development is explicitly by adding material to what is supposed ("suppose also that James came to the party... suppose also that the Romans brought additional cavalry... etc.). So far as I can see we have a lot of latitude in how to supplement a supposition, at least with a co-operative enough audience. Presumably suppositions can be supplemented by more implicit means as well. However, as above I will focus on "development" of a supposition that involves trying to out what follows from that supposition, rather than shifting what is being supposed more radically through supplementation or other means.

One way there appears to be leeway is that we can be more or less strict in our standards for what follows from a supposition. Consider a case where some proposition being supposed makes another, given the background, very likely but not certain. Suppose we are playing 5-card draw poker with two players, and I end up with four aces, and that I do not fold in the betting. One way to develop this supposition is to say that I win the hand. (If I get 4 aces (etc.), I'll win.) Another way to develop it is to concede that I am very likely to win, but to reject the claim that I would win according to the supposition specified. (We might signal this by saying that if I get 4 aces, I might still lose if you have a royal flush, or that if I get 4 aces I'll probably win unless the game gets disrupted, ...) Some will have firm views that one or the other way of going on with the supposition is correct and the others are incorrect, but my sense is that either way of going is permissible.

If the role of small chances is too salient when making suppositions about poker games, perhaps other examples will be more convincing. Suppose France launches an unannounced nuclear strike against British cities. Should we hold that, under this supposition, there will be great loss of British life? That seems to me one good way to say what is true according to the supposition. (I'd assent to both "If France launches an unannounced nuclear strike against British cities, there would be great loss of British life", and "Were France to launch an unannounced nuclear strike against British cities, there would be great loss of British life".)⁶ This doesn't seem to be the only way to appropriately develop even this supposition. It is barely possible (even physically possible) that none of the missiles or bombs detonate, and barely possible that subsequent diplomacy then prevents a conventional or nuclear counterstrike that develops into a general war. (Imagine France credibly giving evidence to the UK that hackers or terrorists or coup-plotters were behind the launches, and that the miscreants had been rounded up.) While the most natural way to develop the supposition I mentioned is that there is widespread loss of British life, if I develop the supposition by conceding that a great loss of British life is very likely, but stress the (outside) possibilities of no great loss of life despite a strike, it seems to me that I can legitimately avoid saying that according to the supposition there is a heavy loss of British life. (If uttering conditionals to match this way of developing the supposition, we might say "Were France to launch an unannounced nuclear strike against British cities, there might be widespread random failure of French nuclear weapons", or "Were France to launch an unannounced nuclear strike against British cities, perhaps French military intelligence would have given French command time to disarm the warheads", or...) To be clear, I am not saying that one could appropriately hold that under the supposition that France launches an unannounced nuclear strike against British cities, there is *not* heavy loss of British life. It is just that one may appropriately reject holding that there *is* heavy loss of British life, under the supposition.

The best way to understand this permissible variation, it seems to me, mirrors the best way to understand a similar variability of conditionals. "If I draw four aces, I will win the hand" is a reasonable enough thing to say in most 5-card draw poker games, let alone a longer conditional with an antecedent specifying not only that I draw the hand, and also that I do not fold, etc. But a claim made

⁶ I choose the example over ones that are more easily conceivable, given the sorry state of the world, so as to not comment on any of the world's more likely flashpoints. Of course I think there is basically no realistic chance of French nuclear weapons being used in this way.

with that sentence can be resisted in some situations. For example, if we are teaching someone which hands are better than others, it would not be mere pedantry to reply "no, if you draw four aces you might lose, since straight flushes are better". Like many writers, I take the truth-conditions of conditional sentences, including indicative conditionals, to be *context-dependent*, so the same conditional sentence can be true on some occasions of utterance but not on others, without a shift in the facts, because of a contextual setting of the conversation is different (e.g. which possibilities are considered relevantly similar to the actual situation can shift). Some of the best known accounts of this context dependence include Kratzer 1986, 2012, Lycan 2001 and Gilles 2009, and my own contribution to spelling out how this might work is Nolan 2003. (Note some authors locate the distinctive context dependence of conditional sentences as being associated with something other than the *word* "if": I don't want to take a stand on that question here.) The context-dependence of counterfactual conditionals is even more commonly defended, by the above authors and most famously by Lewis 1979. Even Williamson takes many counterfactual conditionals to be context dependent (p 168-70).

Motivating context-dependence of indicative conditionals, and with it context-dependence of assertions about appropriate supposition, is hard to do with just a few examples, since contextualists and anti-contextualists have entrenched positions in the debate about conditionals. But let me discuss one more motive for contextualism about indicative conditionals, quite distinct from the consideration already discussed. In Gibbard's famous riverboat case (Gibbard 1980), two of my informants have been observing a two-player card game on a riverboat, where one of the players is Sly Pete and the other is Thomas Stone, but left before the betting had played out. One of them knows that Pete unscrupulously knew the contents of the two hands before betting started, and says "if Pete called, he won". The other knows that Stone has the better hand, and says "If Pete called, he lost" (and would presumably be willing to say "if Pete called, he did not win"). (Gibbard pp 226-232) Gibbard points out that both informants seem to have uttered correctly, especially if Pete in fact (though unbeknownst to the informants) folded. Gibbard himself uses these cases, along with other considerations to motivate non-factualism about indicative conditionals (pp 236-238). But plausibly they show instead that indicative conditionals are context-sensitive, and they are sensitive to something like epistemic or informational states. My own view, defended in Nolan 2003 pp 219-220, is that Gibbard's case helps show that indicative conditionals are context-dependent, in part, on what is *known* in a context. The informants

know different things, so correctly express different, true, propositions with their apparently conflicting reports.

Likewise, I suggest, Gibbard's informants would correctly develop the supposition that Pete called in different ways. The first informant, knowing both that Pete is skilful and that Pete knows whether he has a winning hand, takes it to follow from the supposition that Pete called that Pete won. The second informant, knowing that Stone had the stronger hand and would win any call, takes it to follow from the supposition that Pete called that Pete did not win. The second informant would reject "On the supposition that Pete called, he won", just as the first rejects the claim "On the supposition that Pete called, he did not win". Both are right, so plausibly "On the supposition that Pete called, he won" expresses a different proposition when the first says it than when the second rejects it.

Williamson argues against both context-dependence in truth-conditions for indicative conditionals, and evidence-sensitivity for the truth-conditions of indicative conditionals. Indeed, those approaches appear to be the main opponent in the background of Williamson's discussion. Space precludes a discussion of these arguments, which are found in many places in Part I, though a number of these arguments are directed in the first instance at a limited range of existing context dependence views (see e.g. p 94, p 101). Theorists positing context-dependence for the truth-conditions of indicative conditionals should provide answers to the puzzles Williamson raises. Note, however, that Williamson endorses context-dependence for the truth-conditions of counterfactual conditionals, since the relevant "would" is context dependent: see pp 168-170. So far as I can see, if Williamson's arguments against context-dependence of indicative conditionals were good, such as the ways information needs to be transmitted across contexts available to speakers, hearers and repeaters, they would cast significant doubt on the context-dependence of counterfactual conditionals, though making that case in detail would require a paper of its own.⁷

Incidentally, a link between the flexibility of supposition and the flexibility of conditional judgements can be used to help Williamson's view, in one respect. As I mentioned, Williamson rejects the context-

⁷ Since I think the evidence that counterfactuals are context dependent is overwhelming, if the analogues of Williamson's arguments were to lead to the conclusion that counterfactuals were not context dependent, that would strongly suggest that the arguments are flawed. So this suggests that Williamson's arguments against the context-dependence of indicative conditionals are flawed as well.

dependence of indicative conditionals.⁸ Still, his overall theory should explain the *appearance* of context-dependence of indicative conditionals: people assert and accept conditionals that appear to conflict, in the face of the same facts, in a way that is not surprising on contextualist stories about how the truth-conditions of the conditionals are sensitive to context. If judgements of "suppositional following" are context dependent, *and* appropriate supposition is a central heuristic for judging the acceptability of indicative conditionals, then we have the materials for an explanation of people using indicative conditionals as if they are sensitive to contextual factors. (And note that we still have this explanation even if this heuristic often leads us astray, as Williamson thinks: competent users of indicative conditional statements will be sensitive to conversational context in producing those statements, even if that sensitivity goes along with a deep error about truth-conditions.)

It may well be that Williamsonians would prefer a different story about why we treat different things as following from the same supposition on different occasions, even when the facts about the actual world are not in dispute. (Maybe the leeway we have, upon supposing that I am dealt four aces, in whether to go on and suppose that I will win the hand of poker, is due to a generally permissive attitude we take to supposition rather than anything to do with conversational context.) Whatever the story of that flexibility is, it can be plugged in to explain a corresponding flexibility in the making of indicative conditional claims, for supposition-first approaches. One could even hold an error-theoretic account of supposedly flexible supposition: maybe there is only one correct way to develop the supposition that I am dealt four aces, on a given occasion. Provided competent supposers take themselves to have more leeway, we can explain why different supposers might develop the supposition differently and so, via the heuristic, make different indicative conditional judgements. I would find that sort of error-theory about our suppositional practices gratuitous, but then again I don't find a Williamsonian error theory about our suppositional heuristic for conditionals very appealing either, so those with more of a taste for error theories might find a twin error theory more appealing.

I commend, both to Williamson and to other supposition-first theorists, an exploration of how the apparent flexibility of supposition might yield flexibility in our judgements of which conditionals are acceptable.

8 Of course, indicative conditionals with expressions like "I" or "here" or other context-dependent expressions will have context-dependent truth-conditions, even on Williamson's theory. Williamson rejects any *additional* context-dependence from indicative conditional constructions.

4. Conclusion

Instead of seeing our conditional judgements as being substantially driven by the outcome of our suppositions, we can see our suppositional procedures as being substantially driven by our judgements about conditionals. While these two approaches are diametrically opposed in one way, what they share is the conviction both that there are deep and important connections between conditionals judgements and supposition; and also that we can make theoretical progress by paying close attention to those connections.

My intention in putting forward a version of the conditionals-first approach to connecting supposition and conditionals has been more to point out the option rather than to argue that it is superior to Williamson's supposition-first approach. A full elaboration and defence would also require a lot more to be said to defend the idea, common to both approaches, that there are close and theoretically illuminating ties between conditionals and supposition, though the combination of the idea's initial appeal and Williamson's demonstration of its fruitfulness should be enough for the time being.

Where to from here? One thing we lack in Williamson's account at the moment is an explicit account of when judgements of suppositional following-from by an agent are correct, though we do have indications both in Williamson 2020 section 2.3 and chapter 3, and in other work (e.g. Williamson 2016, on imagination), about how this account will be filled out, as a "partially offline" use of our normal faculties for making predictions. Presumably most of the account will be given in terms of when *those* faculties operate correctly. I expect future work in the supposition first tradition will offer answers to various questions we might have about the psychology and norms of supposition, and how these details show up in what conditional judgements we make, and what conditionals judgements we correctly make. (Some conditional judgements will be made as they "should be" only in the sense of being a result of a heuristic being used as it should be: if we want to know when an indicative conditional judgement is *true*, Williamson's truth-conditions offer systematic answers to that.)

Since neither Williamson nor I think supposition and conditional judgement are the only influences on each other, a more systematic examination of the other influences on both would also be welcome.

With an account of the different kinds of pressure exerted on competent conditional judgment in place, together with an account of competent development of suppositions, we would then be in a position to answer the thorniest question in the vicinity. Presumably all sorts of things can influence conditional judgments and suppositional transitions, including how much protein one has for breakfast or how many conditionals one has been exposed to in the last week. What we would like to know, when studying the psychology or epistemology of conditional judgements, is the *strength* of various influences, and what influences *should* be primary. Supposition and conditional judgement have close connections, and perhaps one tends to drive the other. But it would be good to have a framework to think about how much one influences the other: to spell out in what sense supposition might be a *primary* heuristic for conditional judgement, or conversely if the conditionals-first approach is right, *how* important conditional judgements are to the dynamics of supposition versus other factors. I am not sure how to go about quantifying levels of influence, let alone testing for them, but presumably we should find some way of doing this if we are to advance either supposition-first or conditionals-first research programs.

While I am a cautious supporter of a conditionals-first approach, I cannot forbear from ending with a suggestion for supposition-first inquiries. Williamson himself proposes a supposition-first view together with a substantial error-theory about the truth-conditions of our conditional judgements. As Williamson points out, the simple truth-conditions he offers for indicative and counterfactual conditionals do bring a number of advantages, both in simplicity and being able to explain a range of logical phenomena, including how conditionals work in quantified contexts. But this comes with what I see as a heavy cost: truth-conditions that diverge sharply from the judgements competent users of conditionals are disposed to make, even when they are not making any relevant mistake about the non-conditional facts. I recommend to supporters of the supposition-first approach that they explore options for truth-conditions that match more closely the output of our suppositional practices. Perhaps this cannot be done successfully, in which case Williamson's package deal will be the main one on offer for supposition-first approaches. But even if a superior supposition-first approach can be developed, we should remain grateful to Williamson for pointing the way to an advance in how we theorise about the semantics, pragmatics, and heuristics of our conditional judgements.⁹

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