'*If*' and the classical model: Another patch – more punctures. Comments on Fulda (2012).

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The material conditional has an ingratiating perspicuity: we know just where we are with it. But where we are with it seems, on the whole, not where we ought to be.

Nerlich (1971: 162)

Fulda (2012)

1. asserts the Equivalence Thesis between indicative 'if' and '→';
2. outlines the theory of conditional elements; and
3. applies 2. to 'Austinian ifs' (so-called 'biscuit' conditionals).

On 1. I can find no explanation in Fulda's work of *why* he wishes to defend the Equivalence Thesis. An explanation is needed because, from the point of view of native speaker intuition, the Equivalence Thesis is counter-intuitive. (It is not clear that native speakers have *any* descriptively useful and theoretically exploitable intuitions about what conditionals mean, and that might be part of the general problem.) There are several issues that might be addressed here. The material conditional is a convenient compromise if one is in pursuit, as Frege was, of a truth-functional system, a 'concept script' for 'pure' (that is, unempirical) thought, to model arithmetical discourse. If one is in such a pursuit, then the material conditional almost forces itself upon the system. We may be able to agree that the combination of a true antecedent and a true consequent results in a true composition; and we may be able to further agree that the combination of a true antecedent and a false consequent results in a false composition. But after that, with a false antecedent, and where

easy intuition is unavailable, we have to reason as follows. There are four possibilities: either (i) lines three and four of the standard truth table yield two falsehoods; or (ii) they yield a falsehood followed by a truth; or (iii) they yield a truth followed by a falsehood; or (iv) they yield two truths. (i) is equivalent to conjunction with ampersand, so that selection of values cannot be made – *if*s, whatever they are, are not *and*s, (ii) is equivalent to the biconditional with ↔, so that selection of values cannot be made – *if*s are not *iff*s, (iii) makes the conditional equivalent to the consequent, so that selection of values cannot be entertained, so (iv), by default, is the only remaining option.

But (iv) is the result of attempting to preserve the integrity of a (modest) deductive system. (It also contributes, with its use in universally quantified first-order propositions, to the integrity of a less modest deductive system, one in which multiple and mixed quantification is possible, but that is another story.) (iv) has, however, not yet demonstrated its application beyond modest deductive systems. There are at least two issues here. One is that it is not obvious that natural language conditionals are part of fact stating discourse, and so it is not obvious that the formal repertoire of truth-conditional semantics/logic has any light to throw upon them. There are alternative analyses – probability inspired, or assertion based – which may be developed here. A second issue is that 'conditionals', of pretty much all stripes, say something about a something being a condition for, or a prerequisite for, a something else. Grice (1989, Chapter 4) is very helpful on this matter. In his comparison of *or* and *if*, Grice (1989: 76) says:

> … unlike the disjunctive particle, the conditional particle [is] not […] specially concerned with the institution or the operation of some recognized procedure for answering or solving questions, not even for answering or solving questions in general. Indeed, it might be better to regard the operation with

the conditional particle as directed not toward the removal from the stage of thought – material which is not or, in the present context, is not likely to be of use – but rather toward the building up, on the basis of certain initial information, of a body of knowledge which can be brought to bear, when occasion arises, upon whatever questions call for solution. Operation with the conditional particle might be said to be not eliminative but rather accumulative.

He goes on:

This representation of the role of the conditional particle would give it a predominant position in relation to argument and the extension of knowledge […]. The accumulation of knowledge which this account envisages would provide an informal analogue to the more regimented procedures on which professional mathematicians and scientists rely in building their theories. So the account just offered might fairly claim to do justice to the central place of the conditional in rational thought and research.

The kind of thing that Grice seems to have in mind can be seen from the following example, which appeared on BBC Radio 4, in commentary on Prime Minister Cameron's speech on Britain's relationship with the European Union:

John Humphreys: Gary. Big stuff.
Gary O'Donoghue: Very big stuff. I think that on just one small point there, the enabling legislation will be *prepared* before the election but not put through and the *key* I think of what you heard there was that *if* a Conservative Government is elected. There are a number of ifs before any of this can happen in the end of 2017. *If* he gets a majority, *if* there's

an opportunity and a treaty, *if* he can persuade his European counterparts to discuss this whatsoever. So the ifs are piling up there. (Today. BBC Radio 4, 23rd January 2013, 8.38 am.)

Strawson (1952) is also very helpful on this matter. In his comparison of *if* and ⊃, Strawson (1952: 85) says:

> The fulfilment of both antecedent and consequent of a hypothetical statement does not show that the man who made the hypothetical statement was right; for the consequent might be fulfilled as a result of factors unconnected with, or in spite of, rather than because of, the fulfilment of the antecedent. We should be prepared to say that the man who made the hypothetical statement was right only if we were also prepared to say that fulfilment of the antecedent was, at least in part, the explanation of the fulfilment of the consequent.

There is nothing in the material conditional which reproduces this, perhaps essential, feature of the natural conditional particle. A material conditional merely states that a truth, or a falsehood, when conjoined with a falsehood, or a truth, yields a truth, or a falsehood. The element of 'condition' has evaporated. (The same can be said for the possible worlds analyses of Lewis and Stalnaker and others, for the probability analysis of Adams and others, and also for the event analysis of Lycan.) The author is a little disingenuous when he says that 'what is taught in introductory logic is correct in modeling the natural-language – if… then… – construction and its synonyms by ⊃' (Fulda 2012: 51). There are now many expressions of caution about this modelling. For example, 'there is no simple meaning that can be attached to the connective' (Dean 2003: 125); 'The problem […] is that the material conditional is a poor translation of the natural language conditional' (Guttenplan 1997: 152) and 'use of the material conditional must come with a Logical

Health Warning' (Smith 2003: 144). Undergraduates, these days, are usually too smart, I find, to accept Equivalence uncritically (or, even, at all). Therefore its defence needs to be argued for and not just asserted or assumed.[1]

On 2. I cannot say with confidence, or, indeed, at all, that I have understood the theory of conditional elements. (I have made reference to Fulda (2010) but I do not find that reference to that paper helps very much.) Let me run through the puzzles.

1. The idea seems to be that from the truth-table for material implication, other truth-tables can be derived by 'pragmatic enrichments'. These derivations seem to be called 'conveyances'. So, from the usual table with the usual values – T, F, T, T – a 'conveyance' delivers, for example, the derived table of a pragmatically enriched T, F, T, F. This is $\supset_2$ in Fulda (2012: 52) and is discussed in Fulda (2010: 461-2). The two questions to ask at this point are (a) What does the author mean by a pragmatic enrichment? and (b) What licenses the enrichment anyway? One standard example from the literature is that symmetrical 'and' gets a temporal reading (hence becomes asymmetrical) as a result of an application of a standard maxim of conversation (the maxim of manner, one of the sub-clauses, is normally invoked). But what turns, for example, $\supset_1$ into $\supset_2$? The author provides some evidence, in the way of examples, that such a transformation *may* exist but he fails to provide the mechanism to show *how* it comes to exist. Grice used to have a calculability requirement. I can see no evidence that such a requirement is satisfied in the present system, nor is there any argument to explain why such a requirement is not needed if indeed it is not. Similarly for all the other conveyances from $\supset_1$ to $\supset_n$.

2. I see no discussion or proof of the claim that the pragmatically enriched $\supset_2$ to $\supset_8$ are logically stronger than the base-camp,

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un-enriched $\supset_1$. The claim is that 'the other seven conveyances are logically stronger than material implication, that is, they logically imply it but are not logically implied by it' (Fulda 2012: 52). I do not see how, for example, $\supset_8$, which is false in all cases, can logically imply (I assume the author means 'entail', under textbook definitions) $\supset_1$. The two questions to ask at this point, therefore, are (a) What does the author mean by the expression 'logically stronger' in this context? and (b) What does the author mean by the expression 'logically imply' in this context? (Another question is, of course, (c) What is the mechanism that licenses these entailments (if, indeed, they are entailments)? This is the logical analogue of the pragmatic question (b) in 1, above.

3. The author seems to have some trouble in explicating his position on the semantics-pragmatics interface. The talk of taking the material conditional as 'the point of departure' and applying pragmatic enrichments to it is very similar, if not identical to the sort of picture that can be taken from Grice. There is 'what is said' to which is added (+) some implicature or enrichment which results in (=) 'what is meant'. Now, the question that arises is: Is this same template for the semantics-pragmatics interface the one that Fulda uses or assumes? It is not easy to say. The Gricean picture seems to assume that 'what is said' (whatever that is exactly) is somehow integral and determinate. Some post-Gricean reasoning attempts to show that 'what is said' (again, whatever that is exactly) is somehow partial or indeterminate and so has to undergo pragmatic enrichment. But we have to be careful of our terms here. There is 'pragmatic enrichment' that *adds* to a fully determinate 'what is said' to yield a 'what is meant'. Call this pragmatic enrichment$_1$. And there is 'pragmatic enrichment' that completes (in some sense) an indeterminate 'what is said' to yield a determinate, and hence truth-evaluable, 'what is said'. Call

this pragmatic enrichment$_2$. From what I have been able to gather from what are sometimes very unclear discussions in Fulda's work, he endorses pragmatic enrichment$_1$, but he says little, or perhaps nothing, about why pragmatic enrichment$_2$ is not an option.

On 3. Given the kinds of puzzles expressed in the discussion of 2 above, it would be incautious of a reader to pass judgement on the application of the theory of conditional elements to what Fulda calls Austinian conditionals. Austin wanted to make the claim that there is a class of perfectly good conditionals that do not contrapose, so that the material conditional is not the last word on modelling 'if'. This is part of the more general argument that there are perfectly good declarative sentences that cannot be said to be true of false. Therefore, the kinds of compromises that post-Fregeans have made with respect to natural language will have to be revisited. I am unable to say whether the theory of conditional elements, as presented in this and other work, helps to shed light on these matters.

But whatever the final word on this matter, there is perhaps a more general point to make that puts a large question mark over the entire enterprise. It is this. Science seeks simplicity (cf. Glynn 2010). If the theory of conditional elements could address the kinds of reservations mentioned in 2 above, then that might be an index of progress. All (perhaps) indicative forms of 'if' could be brought under the same umbrella. But what of non-indicative, aka. counterfactual, forms? These cannot have their root in the material conditional, because all counterfactuals have false antecedents and the material definition says that a conditional with a false antecedent is true. So all counterfactuals are true, on the assumption of the material conditional. This cannot be right. So counterfactuals must have a different root. And the theory of conditional elements is therefore only a limited theory within a much bigger domain.

Note

1. Krzyżanowska *et al.* (2012) and Veszelka (2012) present arguments to the effect that such a defence is overwhelmed by a battery of counterexamples. The 'classical model' of material implication, although "preferred by the greatest logicians" (Peirce 1933: 279) is too great an abstraction from the natural conditional to have any purchase at all on '*if* '.

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