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The paradoxical associated conditional of enthymemes

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It is pretty unexceptionable, and standard textbook fare (e.g., Scriven 1976: 61), to hold that every argument has an "associated" or "corresponding" conditional that expresses the implication relationship between the argument's premises (conjoined as the conditional's antecedent) and conclusion (the conditional's consequent). Trouble may arise with any more specific version of this claim, as with an attempt to spell out the nature of the implication involved in the conditional vis-à-vis that involved in the argument. Regarding enthymemes, understood here as arguments with (only) some premises implicit, what seems to be a widely-held view is that "an *enthymematic* argument. . .*assumes* at least the truth of the argument's associated conditional. . .whose antecedent is the conjunction of the argument's *explicit* premisses and whose consequent is the argument's conclusion." I have added emphasis to this statement by Hitchcock (1985: 89, 86) to exhibit its departures from relatively innocuous standard fare. Even definitionally, the view is problematic, since an argument's being enthymematic or incomplete with respect to its explicit premises means that the conclusion is not implied by these premises alone. This paper attempts to sort out the ways in which the view is incorrect, as well as *seemingly* correct—notably, the case of a pure Modus Ponens wherein the major premise is implicit. That there are these various ways, I think makes the associated conditional of enthymemes qualify as paradoxical.

Let us consider several other statements of the view in question. In speaking of "one-inference. . .enthymematic" arguments, Grennan says that the arguer is "committed" to, and the argument has as a "component," an "implicit inference claim," which "has the form of a conditional having the conjunction of the stated premisses as an antecedent, and the conclusion as a consequent" (1994: 187). Berg (1987: 17) makes similar remarks. At one point Govier said that not just enthymemes, but "every argument 'assumes' the associated conditional 'if CON then C'," where "CON" is the conjunction of "all the stated premises" and "C" is the conclusion (1987: 96, 83; later Govier apparently modified her view, as will be indicated). This echoes Scriven: "*all* arguments depend upon the 'assumption' that you can get from their specific premises to their specific conclusions" (1976: 84).

As previously mentioned, it seems that definitionally there must be something wrong with this view. That an argument is "enthymematic" with respect to its explicit premises *means* that the conclusion is not implied by these premises alone; more premise material is needed in order to properly infer the conclusion—that is precisely how the argument is enthymematic or incomplete. So how could the enthymematic arguer or argument "assume" or be "committed" to, or have as an implicit "component," *if CON then C*, which

appears to amount to a denial of this definitional truth?

One possibility is that since the arguer asserts *CON* and asserts *C*, the arguer is committed to the truth of each (Grennan 1994: 187), which would make the arguer committed to the truth of *if CON then C* understood as a material conditional. But this is not the kind of reason that our authors give; in fact, at least one explicitly denies that *if CON then C* should be interpreted materially (Grennan 1994: 187n5; cf. Govier 1992: 403-04). Instead, the reasons actually given are of the following sort: Hitchcock says "to infer a conclusion from given premiss(es) is to assume that the conclusion follows from the premiss(es); and the conditional statement articulates this assumption" (1985: 86). Grennan adds the "the arguer's commitment" to *if CON then C* as an implicit "component" is "manifested by the use of some argument indicator word such as 'so', 'therefore', etc." (1994: 187). In speaking of a reconstruction of an enthymematic argument "where the required assumption is formulated in terms of the exact same premises and conclusion as the original argument," Scriven claims that "it is obvious from the fact that the original argument was put forward that this assumption was being made" (1976: 84; cf. Govier 1987: 97).

These reasons, which all amount to basically the same point, are not enough to defeat the definitional or conceptual truth about enthymemes. It seems that a simple mistake is being made: Because, *ex hypothesi*, some of the argument's premises are implicit and some explicit, the conclusion is *not* inferred just from the "given" or explicit premises; rather, it is inferred from the whole set of premises. This is what is "manifested" from the argument-indicator terms or the fact that the argument was "put forward," together with the knowledge that the argument is enthymematic.

So there is commitment to the associated conditional all right, but the conditional's antecedent actually consists of the conjunction of the argument's implicit and explicit premises. Only this conditional deserves to be regarded as *the* conditional associated with or corresponding to an enthymematic argument, for only it expresses the implication relationship involved in the entire argument. Perhaps Ennis articulates this view in saying of the stated enthymematic argument "Since *p, q*" that it "assumes that in the circumstances. . .premise 'p', is sufficient to establish the conclusion 'q'. . .an arguer is committed to at least this minimal claim" (1982: 83). The phrase "in the circumstances" may allude to the argument's implicit premises and require that they be incorporated in the associated conditional (Ennis himself does not explain the phrase). At any rate, let '*P*' stand for the conjunction of an argument's explicit premises; '*C*' stand for the argument's conclusion (taken to be explicit); and '*I*' stand for the conjunction of the argument's implicit premises, if any. It is certainly more consistent and (so far) theoretically well grounded to hold that the associated conditional of an argument of the form *P, I \ C* is *(P & I) ® C*, not *P ® C* as it is for an argument of the form *P \ C*.

Perhaps confusion arises over the fact that in a sense there is commitment to *P ® C* even for the enthymematic arguer or argument. This is because the

associated conditional, *(P & I) ® C*, of an enthymematic argument is by Commutation and Exportation equivalent to *I ® (P ® C)*, and of course there is commitment to *I* (it is after all the implicit premise set). But notice that this says there is commitment to *P ® C because* there is commitment to *I*, it does not say without qualification that there is commitment to *P ® C* as did our authors. *C* is still not implied by *P* alone.

Yet what about instances of pure Modus Ponens wherein the major premise is implicit—*P, I \ C* such that *I = (P ® C)*? Do not these at least constitute an important exception in that here *C* is implied by *P* alone and such arguments assume exactly this (*P ® C*), as we saw our authors say? Indeed, one might even be tempted to hold that *every* argument that is enthymematic or incomplete with respect to its explicit premises is construable as an instance of pure Modus Ponens, in which case our authors would be (mostly) right after all. Burke comes close to this in saying "we may add the reiterative candidate," that is, add *P ® C* to an argument of the form *P, I \ C*; "this is always unobjectionable" (1985: 116). *P ® C* is called "reiterative" because it supposedly replicates or "reiterates the argument's stated content and inferential structure in if-then form" (Jacquette 1996: 1; cf. Burke 1985: 108). Hitchcock seems to flirt with this view in holding that "the author of an enthymematic argument [*P, I \ C*] implicitly assumes the truth of a universal generalization of the argument's associated conditional [*P ® C*] with respect to one or more content expressions which occur more than once" (1985: 93-94); this is what is supposedly additionally assumed over "at least" the "associated conditional," as I quoted Hitchcock at the outset (an example will be indicated later). If this is true for all enthymemes, then could all enthymemes be converted into instances of pure Modus Ponens by the application of Universal Instantiation?

Notice that even if such a view were correct, we could still insist that the truly corresponding or associated conditional of an enthymeme is *(P & I) ® C*, not *P ® C*. Moreover, one could argue that the view that every argument of the form *P, I \ C* is construable as an instance of pure Modus Ponens is an absurdly inadequate representation of fundamental argument structures in ordinary discourse (Plumer forthcoming: sec. IV). But what is most telling and will be argued for here is that, with respect to potential cases of pure Modus Ponens wherein the major premise is implicit, the implication involved in the *argument* is strict logical implication (in virtue of exhibiting a deductively valid argument form), whereas the implication involved in the implicit major *premise* must be something less than strict, otherwise in fact the case would not be an enthymeme or would not be pure Modus Ponens. If this proves right, then there is no mere "reiteration" between these implication relationships; rather, there is a disconnection that causes the kind of view we have been considering to apparently remain refuted even in the Modus Ponens case. So there are two basic possibilities to consider - one where the implication involved in the potential major premise is less than strict, and one where it is strict. Let us examine the latter first.

Consider the example, 'my coat is green, so it is colored'. Many hold that such an argument is strictly valid as stated; it has no gap for an implicit premise to fill; it is not enthymematic (e.g., Lewis & Langford 1932: 165; Govier 1987: 96-97; Read 1994: 259-62). And it does seem undeniable that as stated the argument is valid in the logically basic sense that it is impossible for the premises to be true and the conclusion false. Of course the argument is not formally valid in that it exhibits no standardly recognized valid pattern; instead, it is said to be "materially" or "substantively" valid by virtue of the meanings of its terms. It would follow that no stated argument of the form $P \setminus C$ that, as stated, is (materially) valid could be a case of pure Modus Ponens with the major premise implicit. However, others regard a case like 'my coat is green, so it is colored' as enthymematic, in particular, as having the necessary and conceptual truth 'all green things are colored' or 'for anything, if it is green, then it is colored' as an implicit premise. One reason amounts to the point that distinguishing enthymemes falls under the province of logic, and logic is concerned only with formal validity (Copi 1972: 154ff.). This point is tendentious, and its impact is muddied by the fact that what is to count as a constituent of logical form, hence what counts as formally valid, shifts between different systems of logic (e.g., Sainsbury 1991: ch. 6). What may be a better objection is raised by Anderson and Belnap. In speaking of the view that logically or necessarily true premises may be freely 'omitted', they say "How *could* this be so? Can we make *no* distinction between valid and invalid arguments when, as may happen [as in a mathematical argument], all the propositions in the argument are necessary?" (1961: 717). Yet room to omit perhaps remains if not all logically or necessarily true propositions are conceptual truths, that is, those that are conceptual might be omittable.

In any event, let us suppose that our example has an implicit premise. Because the original, stated argument is materially valid, the implicit premise must be universal. There could be nothing special about my coat such that (in the extreme case) only for it does its being green make it colored, for it is a necessary truth that all green things are colored. This is also a conceptual truth in that the concept of being colored is involved in the concept of being green, which is what makes the stated argument valid by virtue of the meanings of its terms. It is not merely that Universal Generalization applies to the stated argument's inference because my coat is an arbitrarily selected individual with respect to its being green, for this could yield a mere empirical generalization. Rather, the generalization is necessary and analytic because the argument appeals to the unpacking of a concept (as does any materially valid argument; other stock examples include arguments like 'Joe is a bachelor, so Joe is unmarried' and 'Lyra is taller than Joe, and Joe is taller than Sue, so Lyra is taller than Sue'). Hence, the universal proposition is the implicit premise, not 'if my coat is green, then it is colored'. In other words, if we keep the kind of implication denoted by '® ' undefined, and let '~ (. . .É . . .)' stand for strict implication and 'É ' by itself for something less (notably for example, material implication), the fleshed-out argument has the form ~ (" x) (Gx É Cx), Ga \ Ca, not ~ (Ga É Ca), Ga \ Ca. This means that even if it is supposed that the example has an implicit premise, the argument is still not a case of pure

Modus Ponens with the major premise implicit.

If ~ (Ga ⊃ Ca) were the implicit premise, then we would finally have a clear instance of what our authors claimed, since the argument would be assuming the conditional formed with the stated premise and conclusion, and the implication relationship here would actually correspond to or be "reiterative" of the argument's, that is, both would be strict. However, this is not the implicit premise (as above), nor is it even *an* implicit premise. It might be thought that since ~ (Ga ⊃ Ca) follows from ~ (∀ x) (Gx ⊃ Cx) by Universal Instantiation, if the latter is a premise then so too is the former. But this seems false. For any implication or presupposition of a propositional element or conjunction of elements of an argument, it seems that none is an assumption of the argument since *ex hypothesi* the implication is already part of the content of the argument. The argument could quite well be impeccable from a logical point of view without reintroducing the implication into the argument individually as a further member of its premise set. (Excepted from this of course are consequents of self-implications, i.e., ones of the form *p* ⊃ *p*.) Moreover, if ~ (Ga ⊃ Ca) were an additional implicit premise, then it is not clear why every other substitution instance of ~ (∀ x) (Gx ⊃ Cx) would not also be an implicit premise, which would absurdly make the argument into one of unlimited or infinite length. (For more argument along these lines, see Plumer forthcoming, esp. sec. II.)

So let us turn to the possibility that there are cases of pure Modus Ponens wherein the major premise is implicit, but (as stated) the arguments are not materially valid. This seems quite possible, as the following example illustrates:

Water-Resource Argument

> The government provides water at low prices to many farmers in a certain region. But other farmers in the region are farming profitably even though all the water they use is bought from nongovernmental sources. Hence, any farmer in the region could make a profit if the government ceased to provide the cheap water.

Assumption

> If some farmers in the region are able to make a profit while buying water only from nongovernmental sources, then any farmer in the region could do so were the government to stop providing cheap water.

The critical thing to notice here is that the assumption is not generalizable because there is every reason to believe that the case is not arbitrarily selected. Whether the kind of point the argument makes is applicable to any other situation depends on how low in the situation the government's water or resource prices are compared to those of the nongovernmental sources, on how uniform the farms are across the particular region, etc. So it would be a

misconstrual to attribute a more general assumption to the argument, such as where 'a (any) region' replaces the first occurrence of 'the region', 'buying a (any) resource' replaces 'buying water', etc. In the assumption (the first occurrence of) 'the region' does not refer to any region you please; the rule of Universal Generalization does not apply. It would be irrelevant to object to the argument that although some farmers in a different region can make a profit while buying some resource only from nongovernmental sources, not all of them could do so. In other words, the fact that the case is not arbitrarily selected means that one cannot use refutation by logical analogy or this kind of counterexample against the argument. Hitchcock rightly takes the appropriateness of this method of criticism as a mark of the generalizability of an enthymeme's implicit premise (1985: 89), but given cases like the one we are considering, he wrongly thinks that all such premises are general (as I quoted him above).

Of course even given that we have an instance here of a pure Modus Ponens wherein the major premise is implicit, it is still apparently not a case in point for our authors, since the implication relationship involved in the assumption is not "reiterative" of the argument's. The assumption obviously is not a necessary truth, so the implication is not strict; but as an instance of Modus Ponens, the argument's is strict. This also helps to resolve "a familiar puzzle about *Modus Ponens*, that the major premise is either false or unnecessary: *A*, if *A* then *B*/so *B*. If the major premise is true, then *B* follows from *A*, and so the major premise is redundant" (Read 1994: 259-60). There is no redundancy if the kind of implication involved in the major premise differs from the kind involved in the argument (nor is there redundancy if the aim is to produce a formally valid argument).

But suppose we take the Water-Resource Argument not to be deductive; suppose we take the argument's conclusion and the assumption as each falling within the scope of a probability operator such as 'probably', and suppose that each occurrence of this operator denotes probability to the same degree. As Govier admonishes us, we should not "ignore the multiple interpretations of this conditional associated with an argument. Every argument from P1-Pn ["the stated premises" of an enthymematic argument] to C [the conclusion] does surely assume or claim that P1-Pn give reasons for C, but this assumption shouldn't always be understood as a material conditional that can support a Modus Ponens" (1992: 402-03). On this interpretation, the Water-Resource Argument would be a clear case in point for our authors, since the kind of implication involved in the assumption would be the same as the argument's, namely (let us say), probabilistic implication (to the same degree of strength).

Notice that in parallel to the situation for deduction, the only nondeductive arguments that *could* be cases in point would be instances of 'probabilistic Modus Ponens' with the major premise implicit. Is the Water-Resource Argument naturally understood as an instance of this? It actually seems that if the argument is taken as nondeductive, it is far more natural to understand it

nonenthymematically as an ordinary induction by enumeration that has no implicit assumption like the probabilistic version of the one given above. The reason is that this conditional adds nothing to the argument that could be construed in terms of making the argument stronger than it otherwise would be, so it seems there could be no (logical) grounds for attributing it to the argument. The so-called "familiar puzzle about *Modus Ponens*" would apply: the probabilistic conditional, taken as the implicit major premise, would be redundant. But of course this is in effect part of the very specification of the case in that this conditional "reiterates the argument's stated content and inferential structure in if-then form."

The moral, it seems to me, is that you better not attribute any such reiterative conditional to any argument as an implicit premise, because what you are actually dealing with is the corresponding or associated conditional of the whole argument, and to attribute this as a premise embarks you on Lewis Carroll's infamous infinite regress. For it would be just as well- (or rather ill-) grounded to take the argument as having a further implicit premise (*(P & (P ® C)) ® C*), one that expresses the stated argument (*P \ C*) plus the first alleged implicit premise (*P ® C*), and so on. It is no accident that the example that Carroll himself used, a Modus Ponens incorporating a principle of the transitivity of identity, involved the same kind of implication, viz., strict, in both the argument and the conditional premises (1895: 278-79; for discussion, see, e.g., Govier 1987: 96-99; Grennan 1994: 187; Plumer forthcoming: sec. IV).

The only thing that gives me pause about these results is that we in fact appear to sometimes give probabilistic Modus Ponens arguments - but ones wherein the major premise is *explicit*. One might say, for example, 'If he drove the car in the state he is in, then he probably crashed (*Pr (d É c)*). And unfortunately, he did take the car (*d*). . .' Yet if my stated argument merely had the form *d \ Pr (c)*, it still seems that there could be no grounds for attributing *Pr (d É c)* to my argument as an implicit premise, given that the same degree of probability is denoted by the two instances here of '*Pr*'.

Otherwise, the clear conclusion is that we should always construe the associated or corresponding conditional of an argument to be of the whole argument, including its implicit premises. The kind of implication involved in this conditional is always the same as the argument's, which is necessary for it to be truly corresponding. It has the same terms and the same generality or specificity as the argument. On pain of an infinite regress of the type identified by Lewis Carroll, this conditional should never itself be regarded as an implicit premise of the argument it represents; contrary to Jacquette (1996), it is not merely that to so-regard it often is "trivializing" or "uncharitable." And this seems to be the least misleading way to understand the associated conditional: it is a *representation* of an independent argument, not a component of it or even a 'commitment' of it (if by that we mean the argument assumes it). In this way most, if not all, of the air of paradox surrounding the associated conditional of enthymemes can be removed.

Endnote

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