

A Myth about Logical Necessity

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In these few pages I shall try to demonstrate the emptiness of the most cumbersome piece of unexamined intellectual baggage at present being hauled about by English philosophers. I here cite one example to be going on with, at the end of the paper I shall give a handful more, and it would be easy to multiply the number by ten from the writings of reputable philosophers.

The outstanding philosophical achievement of the half-century which has just drawn to a close [i.e. the period 1900–1950] has been an appreciation of the peculiar status of *a priori* judgments and of logically necessary or formally true propositions. . . . Though many problems remain unsolved, the main outline is now clear: formally true statements assert nothing about the world; instead, their function is to state principles according to which empirical propositions are deduced from other empirical propositions. . . . (R. B. Braithwaite, 'Moral Principles and Inductive Policies', *Proceedings of the British Academy* 1950)

What is wrong with this passage and with the myth of which it is an expression is its assumption that we have clear notions of what it is for a proposition to be logically necessary and of what it is for a proposition to assert something about

the world, these notions being such that it is plausible to say that it has recently been discovered that every proposition having the first of these properties lacks the second. This assumption is wrong: there is no body of published theory giving a clear account of such notions, and despite fairly diligent searching I have so far failed to find, among the many philosophers who accept the myth, one who is able when challenged to supplement the literature on this vital point.

Let me make it clear at once that I am not going to defend synthetic *a priori* truths—I am going to attack a popular mishandling of the truth that all necessary truths are analytic, and through this attack to draw right-wing conclusions from left-wing premisses. For the myth which I am trying to nail does have its origin in a view, which I believe to be a correct view, about the means whereby logical truths must be established.

I shall state this view in terms of necessary conditions for the deductive validity of an argument rather than necessary conditions for the logical truth of a proposition: for all present purposes the two are interchangeable. The view goes like this: If one wishes to defend the claim that Q follows deductively from P, one possible course of action is

to produce a proof of Q from P , that is to produce a series of statements R_1, \dots, R_n such that R_1 follows from P , each R_i follows from the preceding ones, and Q follows from one or more of the R_i s. Now if there is also a challenge to one of these claims about following-from, it may again be possible to produce a proof in justification. But it will not always be possible to meet a challenge in this way, for a stage will eventually be reached at which the defender of the proof will wish to say that the steps in the proof are direct or immediate in such a way that he cannot insert any more intermediate lemmas. To say of a given R_j and R_k that the inference from the former to the latter is too immediate to allow of proof by the interposition of lemmas is to say that one is defining R_j as meaning what R_k means (and perhaps meaning more than this as well); or it may be to say that R_j does in general mean what R_k means—that, for instance, if anyone were asked what R_j means it would be generally considered natural and helpful for him to produce R_k by way of explanation or partial explanation. In the sequel, I shall use the expression ‘follows immediately from’ and its cognates for this relationship which can be defended not by proof but only by stipulation or by description of linguistic activity. The view I am here concerned with, then, is the view that, although Q may follow from P without following immediately from P , it cannot follow from P unless there is a chain of propositions joining P to Q each link in which is an immediate sequence. This may be called the conventionalist view of logical necessity (or of deductive validity), or the view that all necessary truths are analytic and all deductively valid arguments are in a certain sense analytically valid.

This is a theory about the bricks out of which logical truths must be built, and I accept it as true, subject only to some Quinean reservations—which are not here relevant—about its naive employment of intensional terminology. But

far too often this theory is confused with a quite different theory about the sort of structure which can be made with that sort of brick: in particular, it is often said that at last we understand that out of such materials nothing can be constructed which is informative about the world. This is the parrot-cry to which I should like to put a stop.

It is not difficult to see how it has arisen. If Q follows immediately from P , then there is a plain sense in which it is true that Q tells us nothing not told us by P , and in a parallel way true that $P \exists Q$ tells us nothing at all. For in such a case, a person who understands both P and Q cannot know that P and wonder whether Q , he cannot feel enriched by the knowledge that $P \exists Q$, he cannot regard himself as having been carried forward from P to Q , he cannot understand someone who says that he accepts P and rejects Q ; and so on. Now it is tempting to move from saying this to saying that if Q follows from P at all, even if not immediately, then Q must be in the same way non-novel with respect to P —for we have agreed that the relation of consequence is the ancestral of the relation of immediate consequence. But to argue in this way is to commit a howler, just as it would be to argue that since parents always resemble their offspring and the relation ‘is an ancestor of’ is the ancestral of the relation ‘is a parent of’ therefore ancestors always resemble their descendants. The howler there is that resemblance is not transitive, and the howler in the other case is that the relation ‘is non-novel with respect to’ is, in the sense in which I have expounded it, not transitive either. If we are to base any claim about what sorts of statements are logically necessary on the view that all necessary statements are analytic in the sense here expounded, we shall have to find some transitive relation which always accompanies the relation of immediate consequence. (Compare: the substitution of ‘is born earlier than’ for ‘resembles’ in the argument about ancestors.) There

is one such relation: philosophers have known about it since Hume and, if they had paid attention, they could have known about it since Leibniz. What Hume recovered was that if Q is an immediate consequence of P then there cannot be a time-reference in Q later than the latest time-reference in P ; this relation of not-being-dated-later-than is transitive, and so it accompanies not just every immediate consequence but every consequence. It is obvious that this discovery has important consequences for causal rationalism. It was a splendid discovery, and so far as I know it is the only discovery which has ever been made to the effect that a certain limit obtains on the results which can be achieved by purely deductive means.

And yet it is said, over and over again, that we now have in our hands a weapon which will cut down not only the causal rationalist who thinks that logic could in principle tell him what will happen next, but also every manner of rationalist including those who, like Leibniz, hold no brief at all for causal rationalism but who are in a non-modern way optimistic about the possibilities of discovery by deductive means.

There is a standard reply to the foregoing line of argument. With monotonous regularity one is told that this argument shows only that from a given premiss one may validly deduce a conclusion which is psychologically new, but the big discovery is that by purely deductive means we cannot arrive at conclusions which are *really new*, which are *factually new*, whose *empirical content goes beyond* that of the premiss, which are *not just a restatement* of what has already been (implicitly) said in the premiss. . . etc. Now, what does all this mean? So far as I have been able to discover, the remark that the conclusion does not really go beyond the premiss means only that once the premiss is known there is no need for further empirical investigation in order for one to

know the conclusion. But this is just a trivially immediate consequence of the hypothesis of the whole discussion, namely that the conclusion follows deductively from the premiss. Again, it is sometimes said that the conclusion goes no further than the premiss in the sense that every state of affairs excluded by the conclusion is already excluded by the premiss; but, again, to say this is to say only that it is logically impossible that the premiss should be true and the conclusion false, which is another trivial consequence of the hypothesis of the discussion.

I am not objecting to the fact that the alleged discovery about logical truths turns out to be logically true. I am objecting to it on two counts. Firstly, it is normally presented as a consequence of the discovery that logical truths are analytic, whereas in fact it has nothing to do with that at all. This is no sooner said than seen, and I shall not comment further upon it here. Secondly, the 'discovery' turns out to be not just logically true but the sort of logical truth which no sensible person could possibly make a mistake about. For is it even slightly plausible to suggest that any moderately competent philosopher has ever said, or shown that he believed, that there could be a P and a Q such that Q was validly deducible from P and also such that after P was known further empirical investigation was needed before Q could be known? Or: such that Q followed deductively from P and also such that a logically possible situation would instantiate both P and a contrary of Q ?

'But what *are* we to say about necessary truths?' I have been plaintively asked. The answer to this is: say what you like about them, just so long as what you say is true. Say, for example, that claims about logical necessity and deductive validity are arrived at and defended in ways which entitle us to say that if 'analytic' has any legitimate use then all logically necessary truths are analytic. Say also, if you wish,

that the meaning-claims which lie at the back of this are based upon usage rather than upon any inspection of 'ideas' in the manner of, notoriously, Descartes and Locke. Say that Hume was right about causal rationalism, and that his rightness follows from the discovery that all logical truths are analytic.

If you like, say also that if Q is deducible from P then it is the case that Q is implicit in P , and that no possible situation excluded by Q is allowed by P , and that knowing P to be true completes all the empirical investigation needed for one to know Q to be true, and so on. Say all this, but do not slip into thinking that any of it depends upon the thesis that all logical truths are analytic—for in fact you have only recited some trivial consequences of the holding of a deducibility relation, on any theory about deducibility or logical necessity. Do not think, either, that you are saying anything interesting; no-one has ever denied that if Q is deducible from P then these other relations also hold between P and Q .

'What are you going to do about the deductive metaphysician?' I have also been asked. Well, I am not going to do anything about him: I shall continue to study some metaphysicians and not others. to admire some and not others, and no doubt sometimes to find that a piece of metaphysical reasoning is invalidated precisely by inattention to general questions about the nature of logical truth. But there is no onus on anyone to provide new weapons with which to thump the deductive metaphysician as such—there never were any such weapons, only the illusion that they existed.

A few more examples:

- (1) Analytic propositions. . . are entirely devoid of factual content. . . (A. J. Ayer, *Language, Truth and Logic*, p. 79 of 2nd edition.)
- The expression 'Every event has a cause' is—owing to the impossibility of describing any circumstance that could show it to be false—vacuous and utterly uninformative. . . (G. J. Warnock, "Every Event Has a Cause", *Essays in Logic and Language*, 2nd series, p. 109.)
- A corrigible proposition gives you some information about the world—a completely incorrigible proposition tells you nothing. (Douglas Gasking, 'Mathematics and the World', *Essays in Logic and Language*, 2nd series, p. 208.)
- Few people now think, as Descartes seems to have done, that we can arrive at scientific conclusions about matters of empirical fact. . . by deductive reasoning from self-evident first principles. The work of Wittgenstein and others has to a great extent made clear the reasons for the impossibility of doing this. It has been argued, in my opinion convincingly, that all deductive inference is analytic in character; that is to say, that the function of a deductive inference is not to get from the premisses 'something further' not implicit in them. . . but to make explicit what was implicit in the conjunction of the premisses. (R. M. Hare, *The Language of Morals*, p. 32.)
- Modern logicians, for the most part, regard pure mathematics as analytic, but consider all knowledge of matters of fact to be synthetic. (Bertrand Russell, *Philosophy of Leibniz*, preface to 2nd edition.)