Lyons, who places great weight on the distinction between occurrent and standing emotion, seems to suggest that the relevant occurrence is always an abnormal physiological change of some kind (see note 6), but in my example, I never undergo such changes. Surely the truth is that the relevant occurrence may be of several different kinds: when I am in an occurrent state of nostalgia, all I do is think certain thoughts about Paris, thoughts which have their origin in my desires, interests, values, and goals. Similarly, if I am in an occurrent state of contempt, I may exhibit contemptuous behavior, feel certain feelings or, less likely, experience certain physiological changes, but I may simply think "What a contemptible fellow!" What makes this a *contemptuous* thought is its history, the fact that it originated in the particular desires, interests, etc. that I have.

My conclusion, then, is that having a conception colored and determined by desire may be both necessary and sufficient for the presence of a standing emotion and is always at least necessary. Furthermore, in certain very "bare" cases of occurrent emotion, the occurrence in question may be nothing more than the having of a thought that expresses this conception, always provided that the thought has the right history.

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DIVINE NECESSITY*

THE subject of this paper is the doctrine of divine necessity, the belief that God's existence is necessary in the strongest possible sense—that it is not merely causally or physically or hypothetically, but logically or metaphysically or absolutely necessary. When I use 'necessary' (and its modal relatives) below, I shall normally be using it in this strong sense (and them in corresponding senses). I will not attempt to prove here that God's existence is necessary, nor even that God exists, though some theoretical

advantages of theistic belief will be noted in the course of discussion. Nor will I try to explain exactly *how* God's existence can be necessary. I believe the most plausible form of the doctrine of divine necessity is the Thomistic view that God's existence follows necessarily from His essence but that we do not understand God's essence well enough to see how His existence follows from it. What I will attempt is to refute two principal objections to the doctrine of divine necessity—two influential reasons for thinking that the existence of God, or indeed of any concrete being, could not be necessary.[1]

I

Many philosophers have believed that the proposition that a certain thing or kind of thing exists is simply not of the right *form* to be a necessary truth. They think that necessity cannot be understood except as consisting in *analyticity* and that existential propositions cannot be analytic. It has become notorious that the notion of analyticity itself is difficult to analyze; but for present purposes it seems fair to say that an analytic truth must be of one of the following three sorts. (1) It may be a (broadly speaking) conditional proposition of the form $\ulcorner p \supset q \urcorner$ or $\ulcorner (x)(Fx \supset \phi x) \urcorner$, where q is a correct analysis or partial analysis of p, or ϕ of F. As has often been noted, such conditional propositions do not say that anything exists. (2) A proposition that follows formally from such conditional analyses will also be analytic, but will still not say that any particular thing or kind of thing exists. (3) Theorems of formal logic are usually counted as analytic, but they too will not say that any particular thing or kind of thing exists. It would be very questionable to use in this context a system of logic that would not be valid in an empty domain and in which '$(\exists x)(Fx \vee \sim Fx)$', for example, is a theorem; but even in such a system it will not be a theorem that there exists a thing of any particular sort (that is, of any sort to which a thing could fail to belong). So in none of these three ways could it be analytic that a certain particular thing or kind of thing exists.

I am prepared to grant that existential propositions cannot be analytic in any of these ways, but I do not see any good reason to believe that all necessary truths must be analytic. Philosophical work in the past generation has given us cause to doubt the identi-

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[1] I have treated this subject before. The two objections roughly correspond to the second and third discussed in my "Has It Been Proved that All Real Existence Is Contingent?" *American Philosophical Quarterly*, VIII, 3 (July 1971): 284–291. I do not substantially disagree with what I said there, but what is said here is different and, I hope, goes deeper.

fication of necessity with analyticity. There are in the first place the well-known difficulties in understanding the notion of analyticity itself, and in the second place it has come to seem clear to many of us that there are necessary truths *de re* that are not exactly analytic. What I wish to emphasize here, however, is an even more fundamental point. The identification of necessity with analyticity has retained its grip on so many philosophers because it has seemed to them to provide the only possible explanation of the meaning of 'necessary'. But in fact it provides no explanation at all of the meaning of 'necessary', and should never have been thought to provide one.

To see this it will be helpful to begin with an account of necessity that is even older than the one in terms of analyticity. A necessary truth, it has been said, is one whose negation implies a contradiction. Let us think about this, beginning with the limiting case of a proposition p whose negation *is* a formal contradiction. Such a proposition is, no doubt, necessary; and the fact that its negation is a contradiction gives us reason to believe that p is necessary. For a contradiction can't be true, and hence a proposition whose negation is a contradiction can't be false. But this does not explain what 'necessary' means here. A contradiction *can't* be true; that is, it is necessarily false. And when we say that a contradiction is *necessarily* false, surely we are saying more than just that it is a contradiction. This "more" is precisely what we want explained, but it is not explained by saying that a necessary truth is one whose negation implies a contradiction.

The plot thickens when we think about a necessary truth q whose negation is not a contradiction but *implies* a contradiction. Semantically understood, 'implies a contradiction' presumably means "*can't* be true unless a contradiction is." But 'can't' here involves the very notion of necessity that we are trying to analyze; 'can't be' means "necessarily is not." Thus the use of 'implies a contradiction', semantically understood, in the analysis of necessity renders the analysis viciously circular. Suppose, then, that we give a syntactical or purely formalistic account of implication, so that what we mean when we say that not-q (the negation of q) implies a contradiction is that it stands in a certain formal relation to a contradiction. This relation, I grant, gives us reason to believe that not-q can't be true and, hence, that q is necessarily true. But this again cannot explain what 'necessary' means here. We say that not-q can't be true; that is, it is necessarily false. And when we say this, we surely mean more than just that not-q stands in this formal relation to a contradiction. We mean that something else is true

about not-q because it stands in this relation to a contradiction. Indeed our belief that this "something else" is true of propositions that stand in this formal relation to a contradiction, but is not true of all propositions that stand in certain other formal relations to a contradiction, is presumably what would guide us, in our syntactical analysis, to interpret implication in terms of certain formal relations and not others. Involved in this something else is precisely the notion of necessity that we want explained. It is not explained by saying that a necessary truth is one whose negation implies a contradiction.

Consideration of the identification of necessity with analyticity will lead to a similar conclusion. Of the three sorts of analytic truths mentioned above, let us begin with theorems of formal logic. No doubt all the theorems of a good or valid or semantically satisfactory system of formal logic are indeed necessary truths. But it would be circular to appeal to this fact to explain what we mean by 'necessary' here; for what makes a system of formal logic good or valid or semantically satisfactory is at least in part the necessary truth of all its theorems (or of all substitution instances of its theorems).

Perhaps it will be objected to me here that the notion of a valid or semantically satisfactory logical system need not presuppose the notion of *necessary* truth—that it is enough for the validity of a logical system if all its theorems and all their substitution instances are in fact true, provided that the theorems contain no nonlogical constants. On this view the analyticity (and hence necessity) of truths of logic is to be understood in terms of their being true solely by virtue of their logical form, and being true solely by virtue of their logical form is to be understood in terms of the actual (not necessary) truth of all propositions that have that logical form. We might find it difficult to understand the notion of logical form without presupposing the notion of logical necessity, but quite apart from that, this view will not be plausible if there are any logical forms all of whose substitution instances are true, but not in every case necessarily true. And it is not obvious that there are no such "contingently valid" logical forms, as we might call them. Consider, for example, the proposition that something exists. If we may express it as '$(\exists x)(x = x)$', it is the only proposition of its logical form; and it is certainly true. Yet a number of philosophers have been convinced that it is a contingent truth. I am not convinced of that, but I think it would be ridiculous to argue that it must be a necessary truth *because* it is both actually true and the only proposition of its logical form (and hence is of a logical form

all of whose substitution instances are true). So it seems to me implausible to suppose that the meaning of 'necessary truth' is to be understood in terms of the actual truth of all instances of a logical form.

Indeed it should not require elaborate argument to show that no such analysis is plausible. For when we say that all the instances of a certain logical form are *necessarily* true, we surely mean more than that they *all are* true. We mean that they can't be false.

Turning from theorems of formal logic, let us consider another sort of analytic truth. 'All husbands are married' is an analytic truth if anything is. It is analytic because 'married' is a correct partial analysis of 'husband'—'married man' being a correct complete analysis of 'husband'. But this does not explain what we mean by 'necessary' when we say it is a necessary truth that all husbands are married. For in the first place it is not clear that we can understand the notion of a *correct analysis* without presupposing the notion of necessity. When asked what we mean by saying that 'married man' is a correct analysis of 'husband', our first response is likely to be that we mean that by 'husband' we *mean* "married man." But this is not an adequate explanation. For there is surely a sense in which by 'God' we *mean* "the Creator of the universe"; yet 'God (if He exists) is the Creator of the universe' is not an analytic truth—or at any rate not a necessary truth—since God could have chosen not to create any universe. In order to maintain that 'All husbands are married' is analytic (and necessary) because by 'husband' we mean "married man," we will therefore have to distinguish the sense in which by 'husband' we *mean* "married man" from the sense in which by 'God' we *mean* "the Creator of the universe." The former sense will imply a *necessary* equivalence, and the latter won't; but I don't see how to distinguish the two senses without presupposing the notion of necessity that concerns us (or the corresponding notion of possibility). This argument (which is a variation on W. V. Quine's argument about analyticity[2]) would need more discussion if I were going to rely heavily on it; but that is not my intention.

My main argument is of a kind that should be familiar by now. Suppose we could understand the notion of a correct analysis without presupposing the notion of necessity (or any of that family of modal notions). In that case, it seems to me, when we say that 'All husbands are married men' is a necessary truth, we are saying more than just that it expresses a correct analysis. We are saying

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[2] *From a Logical Point of View,* 2nd ed. (New York: Harper Torchbooks, 1963), pp. 20-46.

that it *can't* be false, in the same sense in which we say that theo-
rems of a valid formal logic can't be false. This is a property that
correct analyses have in common with theorems of a valid formal
logic. As a common property, it must be distinct both from the
property of expressing a correct analysis and from the property of
being a theorem of a valid formal logic. And we could not plausi-
bly claim to have explained what necessity is by saying it is the dis-
junctive property of expressing a correct analysis *or* being a theo-
rem of a valid formal logic. For why should that disjunctive
property possess an importance not possessed by, say, the disjunc-
tive property of being a theorem of formal logic *or* asserted by
Woody Allen? Presumably because correct analyses and theorems of
valid formal logics have something in common *besides* the disjunc-
tive property—namely their necessity, the fact that they can't be
false.

If the foregoing arguments are correct, the meaning of 'necessary'
cannot be explained in terms of analyticity. Of course it does not
follow that there are any necessary truths that are not analytic. But
the principal ground for believing that all necessary truths must be
analytic is exploded. And I think it is plausible to suppose that
there are necessary truths that do not belong to any of the three
types of analytic truth identified above. Not to mention necessities
de re, let us consider

(T)   Everything green has some spatial property.

This seems to be a necessary truth, and is not a theorem of any-
thing we would ordinarily recognize as formal logic. It is more
controversial whether 'has some spatial property' is a correct par-
tial analysis of 'green'; but I think it is not. For I do not think there
is a satisfactory complete analysis of 'green' of which 'has some
spatial property' is a part. This point can be backed up by the fol-
lowing observation. In the case of 'husband', which has 'married
man' as a satisfactory complete analysis and 'married' as a correct
partial analysis, we can easily say what would be otherwise like a
husband but not married: an unmarried man. But if we ask what
would be otherwise like a green thing but with no spatial property,
there is nothing to say, except that it is obvious that there cannot
be any such thing. This suggests that the impossibility of separat-
ing greenness from spatiality is not rooted in any composition of
the concept of green out of spatiality plus something else—and
hence that the necessary truth of (T) cannot be explained as based
on correct *analysis*. Perhaps some will complain that I am insisting
here on an unreasonably strict interpretation of 'analysis' and 'ana-
lytic'. It is enough for the analyticity of (T), they may say, if (T) is

true "solely by virtue of the meanings of its terms." But this crite-
rion, cut loose from any precise conception of analysis, is so vague
as to be useless for any serious argument (not to mention that it
may presuppose the notion of necessity). In particular, I defy
anyone to show that existential propositions cannot be true solely
by virtue of the meanings of their terms.

Now of course I have not proved that the existence of God, or of
any other particular being or kind of being, is necessary. What I
think can be shown by such arguments as I have been presenting is
that we are not likely to get a satisfying analysis of necessity from
which it will follow that such existence cannot be necessary. That
is because we are not likely to get a satisfying analysis of necessity
at all. I think we have a good enough grasp on the notion to go on
using it, unanalyzed; but we do not understand the nature of neces-
sity as well as we would like to. Such understanding as we have
does not rule out necessity for existential propositions. Aquinas's
supposition that God's existence follows necessarily from His es-
sence although we do not see how it does is quite compatible with
the state of our knowledge of the nature of necessity.

II

Another objection to the doctrine of divine necessity is that if God
exists His existence is too real to be necessary. Many philosophers
believe that absolute necessity is "logical" or "conceptual" in such
a way as to be confined to a mental or abstract realm and that it
cannot escape from this playground of the logicians to determine
the real world in any way. On this view necessary truths cannot be
"about the world," and cannot explain any real existence or real
event, but can only reveal features of, or relations among, abstract
or mental objects such as concepts or meanings. They cannot gov-
ern reality, but can only determine how we ought to think or speak
about reality.

If, on the other hand, it is a necessary truth that God exists, this
must be a necessary truth that explains a real existence (God's); in-
deed it provides the ultimate explanation of all real existence, since
God is the creator of everything else that really exists. Thus if
God's existence follows from His essence in such a way as to be nec-
essary, His essence is no mere logicians' plaything but a supremely
powerful cause. This is a scandal for the view that necessary truths
cannot determine or explain reality.

This view is extremely questionable, however. It is not, I think,
the first view that would suggest itself to common sense. If we
think about the role that elaborate mathematical calculations play
in scientists' predictions and explanations of, say, the movements

of the planets or the behavior of a rocket, it seems common-sensical to say that the necessary truths of mathematics that enter into those calculations also contribute something to the determination of the real events and form part of the explanation of them. The doctrine that necessary truths cannot determine or explain reality is also not the only view that has commended itself to philosophers. The extremely influential Aristotelian conception of a "formal cause," for example, can be understood as the conception of a cause that governs the action of a real thing by a logical or quasi-logical necessity. It is far from obvious that necessary truths cannot cause or explain any real existence or real event; why should we believe that they can't?

I suspect that the most influential ground for the belief that necessary truths are not "about the world" is epistemological. This motive is clearly articulated by A. J. Ayer, when he writes that if we admit that some necessary truths are about the world,

> we shall be obliged to admit that there are some truths about the world which we can know independently of experience; that there are some properties which we can ascribe to all objects, even though we cannot conceivably observe that all objects have them. And we shall have to accept it as a mysterious inexplicable fact that our thought has this power to reveal to us authoritatively the nature of objects which we have never observed[3]

The main assumptions of this argument seem to be, first, that if necessary truths are about the world, we can sometimes know that they apply to objects that we have not experienced; and second, that if we know something about an object, there must be some explanation of how it comes to pass that our beliefs agree with the object. Both of these assumptions are plausible. Ayer seems to make a third assumption, with which I will disagree, that the only way in which agreement of our beliefs with a real object can be explained is through experience of that object. (Ayer mentions as an alternative, but only to dismiss it, "the Kantian explanation"—presumably that our mind imposes necessary truths on the world.[4]) From these three assumptions it follows that necessary truths are not about the world.

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[3] *Language, Truth and Logic*, 2nd ed. (New York: Dover, no date), p. 73.

[4] *Ibid.*, p. 73. Induction is another way in which beliefs are extended beyond experience. It would not be plausible, however, to say that the beliefs that concern us here are based on induction from experience—and there may also be comparable problems in explaining why our inductive processes are reliable with regard to future events that have not influenced them.

Before we draw this conclusion, however, we should ask whether our knowledge of necessary truths is any more explicable on the view that they reveal only features or relations of abstract or mental objects such as concepts or meanings. I think it is not. For if necessary truths reveal features or relations of thoughts, they reveal features or relations of thoughts that we have not yet thought, as well as of those that we have thought. If I know that modus ponens is a valid argument form, I know that it will be valid for thoughts that I think tomorrow as well as for those I have thought today. If this is a knowledge of properties and relations of the thoughts involved, the question how I can know properties and relations of thoughts I have not yet experienced seems as pressing as the question how I could know properties and relations of objects outside my mind that I had not yet experienced. The retreat to abstract or mental objects does not help to explain what we want explained.

The prospects for explanation are not any better if we accept an idea that Ayer espouses in *Language, Truth and Logic*. He says that necessary truths (which he regards as all analytic) "simply record our determination to use words in a certain fashion," so that "we cannot deny them without infringing the conventions which are presupposed by our very denial, and so falling into self-contradiction" (84). I grant that there is no special problem about how we can know the determinations, intentions, or conventions that we have adopted for the use of words. But that is not all that we know in knowing necessary truths that will govern our thoughts tomorrow. We also know what follows (necessarily) from our determinations and which intentions would (necessarily) be inconsistent with other intentions, tomorrow as well as today. We know, in Ayer's words, what "we *cannot* deny . . . without infringing" our conventions or determinations. And we are still without an explanation of how we can know these properties of thoughts we have not yet experienced.

Given that we know things about our future thoughts which we have not learned from experience of them, it is reasonable to suppose that we have a faculty for recognizing such truths nonempirically. We would expect a theory of natural selection to provide the most promising naturalistic explanation of our possessing such a faculty. True belief is in general conducive to survival; hence individuals with a hereditary ability to recognize truths will have survived and passed on their hereditary ability to their descendants. This does indeed provide a possible explanation of our having the perceptual ability to recognize truths about our physical environ-

ment. Perhaps it also gives an acceptable explanation of our pos-
sessing the power to recognize simple truths of arithmetic. The
ability to count, add, subtract, and multiply small numbers cor-
rectly has survival value. We may well suppose that under the con-
ditions prevailing during the formative periods of human evolu-
tion, humanoids that usually or systematically made gross errors
about such things would have been less likely to survive and repro-
duce themselves. (Be it noted, however, that this argument seems to
assume that the *truth* of arithmetical propositions makes a differ-
ence to what happens in the world. This assumption seems to fit
better with the view that necessary truths can determine reality
than with the contrary opinion.) But there are aspects of our
knowledge of necessary truths for which this evolutionary explana-
tion is less satisfying. That is particularly true of the knowledge of
modality which most concerns us in this discussion. During the
formative periods of human evolution, what survival value was
there in recognizing necessary truths as necessary, rather than
merely as true? Very little, I should think. Logical or absolute ne-
cessity as such is a philosophoumenon which would hardly have
helped the primitive hunter or gatherer in finding food or shelter;
nor does it seem in any way important to the building of a viable
primitive society. Those of us who think we have some faculty for
recognizing truth on many of the issues discussed in this paper can
hardly believe that such a faculty was of much use to our evolving
ancestors; nor is there any obvious way in which such a faculty,
and its reliability, are inevitable by-products of faculties that did
have survival value.

The prospects for explanation of our knowledge of necessary
truth may actually be brighter on the view that necessary truths can
determine and explain reality. For then we may be able to appeal
to an explanation in terms of formal cause. For example, we might
suppose that it is simply the nature of the human mind, or perhaps
of mind as such, to be able to recognize necessary truths. Then the
explanation (and indeed the cause) of our recognizing necessary
truths as such would be that this recognition follows necessarily
from the nature of our minds together with the fact that the truths
in question are necessary.

I do not believe the explanation I have just sketched. We are too
easily mistaken about necessary truths and too often unable to rec-
ognize them. And there is too much reason to believe that other
mechanisms or causal processes are involved in our knowing them.
But I do seriously entertain the hypothesis that there is a mind to
whose nature it simply pertains to be able to recognize necessary

truths. Indeed I am inclined to believe that such a mind belongs to God.

And that opens the way for another explanation of our knowledge of necessary truths, an explanation in terms of divine illumination. Suppose that necessary truths do determine and explain facts about the real world. If God of His very nature knows the necessary truths, and if He has created us, He could have constructed us in such a way that we would at least commonly recognize necessary truths as necessary. In this way there would be a causal connection between what is necessarily true about real objects and our believing it to be necessarily true about them. It would not be an incredible accident or an inexplicable mystery that our beliefs agreed with the objects in this.

This theory is not new. It is Augustinian, and something like it was widely accepted in the medieval and early modern periods. I think it provides the best explanation available to us for our knowledge of necessary truths. I also think that that fact constitutes an argument for the existence of God. Not a demonstration; it is a mistake to expect conclusive demonstrations in such matters. But it is a theoretical advantage of theistic belief that it provides attractive explanations of things otherwise hard to explain.

It is worth noting that this is not the only point in the philosophy of logic at which Augustinian theism provides an attractive explanation. Another is the ontological status of the objects of logic and mathematics. To many of us both of the following views seem extremely plausible. (1) Possibilities and necessary truths are discovered, not made, by our thought. They would still be there if none of us humans ever thought of them. (2) Possibilities and necessary truths cannot be there except insofar as they, or the ideas involved in them, are thought by some mind. The first of these views seems to require Platonism; the second is a repudiation of it. Yet they can both be held together if we suppose that there is a non-human mind that eternally and necessarily exists and thinks all the possibilities and necessary truths. Such is the mind of God, according to Augustinian theism. I would not claim that such theism provides the only conceivable way of combining these two theses; but it does provide one way, and I think the most attractive.[5]

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[5] One readily available classic text in which this point is exploited as the basis for an argument for the existence of God is Leibniz's *Monadology*, sections 43 and 44. Alvin Plantinga makes similar use of it at the conclusion of his recent Presidential address to the Western Division of the American Philosophical Association. My general indebtedness to the philosophy of Leibniz in the second part of this paper is great.

There are many things that I have not explained, and indeed do not know how to explain, about the necessity of God's existence and the necessity of His knowledge of necessary truths. But I hope I have given some reason to believe that the doctrine of divine necessity does not saddle us with problems about either the nature or the knowledge of necessity which could be avoided, or solved more advantageously, on views incompatible with divine necessity.

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BELIEVING WHAT ONE OUGHT*

THE question I wish to address here concerns the relation between epistemic and practical rationality. There are, it seems, times when practical and epistemic imperatives incline us in opposite directions. When this occurs, what is it most reasonable to do? Are the demands of the intellect inviolate? Or are the claims of pure reason merely to be weighed against practical ends and, when expedient, overridden?

I

These questions may be brought into focus by considering a simple example.[1]

Sally and Bert have been happily married for fifteen years and have every reason to look forward to continuing connubial bliss. One day, however, Sally notices a long blonde hair on Bert's coat. On a later occasion she discovers in the same coat a lipstick-stained handkerchief and a matchbook from an intimate French restaurant that she has never visited. These, together with certain other bits of evidence, seem plainly to warrant the conclusion that Bert has been seeing another woman.

Sally, however, while appreciating the import of the evidence against Bert, believes passionately in her marriage. It is, she thinks, worth preserving even if the cost is high. Further, Sally recognizes that she is the sort of person who cannot easily conceal suspicions.

[1] The example used here is discussed at length in Jack W. Meiland, "What Ought We to Believe? or The Ethics of Belief Revisited," *American Philosophical Quarterly*, XVII, 1 (January 1980): 15–24.