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Swinburne on divine necessity

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Abstract: **Most analytic philosophers hold that if God exists, He exists with broad logical necessity. Richard Swinburne denies the distinction between narrow and broad logical necessity, and argues that if God exists, His existence is narrow-logically contingent. A defender of divine broad logical necessity could grant the latter claim. I argue, however, that not only is God's existence broad-logically necessary, but on a certain understanding of God's relation to modality, it comes out narrow-logically necessary. This piece argues against Swinburne's overall account of modality and rebuts his argument for narrow-logical contingency.**

The doctrine that if God exists, His existence is logically necessary was once in such wide disrepute that J. N. Findlay could base on it a purported disproof of God's existence.[1] Things have changed: a doctrine of divine logical necessity is now the consensus view among 'analytic' theist philosophers. But there are holdouts, most prominently Richard Swinburne. In what follows I consider his objections to divine necessity. I first take up his overall view of logical modality. His argument rests on the 'conceivability' of God's non-existence. I call this into question.

The nature of necessity

Kripke and Plantinga have made a distinction between broad and narrow logical modality common coin.[2] Those who now defend divine necessity mean to defend only the claim that God exists with broad logical necessity.[3] Swinburne, though, maintains that:

(1) There are only narrow-logical necessities.
(2) If God exists, His existence is narrow-logically contingent.

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I now raise questions for both claims. I first introduce the narrow logical modalities. I dispute Swinburne's account of them. I set out what an absolute modality is and defend the claim that narrow logical modalities are absolute. Having done so, I argue that they cannot be the *only* absolute modality, and we must in addition recognize absolute broad logical modalities.

The narrow logical modalities are built on facts about entailing contradictions; the root thought behind them is that contradictions can't be true. We can define them as follows: P is narrow-logically (NL) impossible just if P entails a contradiction.[4] P is NL possible just if P entails no contradiction. As that is necessary whose contradictory is impossible, P is NL necessary just if ∼P entails a contradiction. P is NL contingent just if P is NL possible but not NL necessary. There are theses that do and theses that do not entail contradictions. So there are facts of narrow logical modality.

Swinburne believes that such facts are wholly determined by convention. In *The Christian God* [hereafter *CG*], he writes that 'laws of logic … are simply generalisations about … patterns of entailment in ordinary language' (*CG*, 108).[5] Patterns of ordinary-language entailment, Swinburne thinks, are thoroughly conventional: just a matter of how we happen to treat sentences (*CG*, 96–106). The principle of non-contradiction (PNC) can fall under this account in a form which makes it a claim about entailment, e.g. $(\Phi)(\Psi)(((\Phi \rightarrow (\Psi \bullet \sim \Psi)) \rightarrow \sim \Phi)$. If so, then on Swinburne's account, PNC is ultimately conventional. If convention determines what entails a contradiction and that contradictions are all false, all truths about narrow logical modality are conventional: our ways of using language determine which claims are NL impossible, necessary, etc. It follows that narrow logical modalities are 'relative' modalities: something is NL necessary relative to a given set of conventions, and would not be so relative to a different set. We may even operate with multiple modal conventions. As we see below, Swinburne thinks that we sometimes in ordinary contexts treat self-contradictory sentences as true.[6] So on his terms, the conventions of ordinary language do not dictate that contradictory sentences are all false: we actually operate with conventions incompatible with assigning narrow logical impossibility to whatever entails a contradiction. For Swinburne, then, certain sentences count as NL impossible when we do formal logic, but not in other contexts.

Narrow logical modality is conventional iff entailment and PNC are conventional. I now briefly contest both claims.

Swinburne on entailment

Our definitions for the narrow logical modalities invoked entailment. If the concept of entailment itself involves narrow logical modality, then, these definitions are circular and vacuous. So they require that the concept of entailment be non-modal or else involve only modalities not in turn involving narrow logical

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modalities. Swinburne attempts a conventionalist account of entailment within these strictures:

> A sentence r_1 minimally entails a sentence r_2 if the rules of the public language are recognized by most speakers of the language to be such (when it is suggested to them) that a speaker of r_1 in the given context is 'committed' to r_2 in that context – in the sense that the speaker of r_1 is thereby also taken to have affirmed r_2; r_1 is seen as involving r_2, and r_2 is seen as part of r_1. Hearers would be at a loss to understand what claim was being made by r_1 if the speaker at the same time [denied] r_2 … two or more sentences … entail another one, q, if there is a chain of minimal entailments beginning from one of the initial sentences or conjunctions thereof, such that we are allowed to conjoin any … sentences of the chain to any of the initial sentences at any stage and proceed further by minimal entailments, which eventually reaches q. (*CG*, 107)

This account does not tell us whether r_1 entails r_2 if a suggestion that r_1 commits one to r_2 is not made to most speakers of the language, as it has no 'only if' clause. What's wanted, of course, is that the rules are such that most speakers *would* recognize this commitment (as *CG*, 114 suggests). Most speakers, of course, do not operate with the concept of a linguistic rule at all. They instead have a sense of, and the ability to recognize, the right things to say and the right inferences to make. They have a sense of linguistic norms. Such a norm actually exists in a language just if enough of its speakers act as if it does, consistently, over a suitable period, for the right reasons, and as following the norm rather than merely acting in accord with it[7] – and in this context, 'most' is enough. Swinburne's account of minimal entailment might really go this way:

> L-sentence r_1 minimally entails L-sentence r_2 iff most L-speakers would take L's rules to commit someone asserting r_1 to r_2.[8]

For Swinburne, entailment is at root a normative rather than an alethic notion.

Swinburne's 'most' creates trouble. 'Most' is vague.[9] That is, there does not appear to be a precise minimum per cent of the speaking population at which it becomes the case that 'most' speakers are primed to assent that the rules commit someone asserting r_1 to r_2. Rather, there are cases when it is clear that enough are primed to constitute 'most' (99.9 per cent), cases where it is clear that not enough are (4 per cent), and cases in a middle zone where it is just unclear whether there are enough to be 'most' in this context (56 per cent?). So some account of the semantics of vagueness must fill out our understanding of Swinburne's theory. There are four main sorts of theory here.

Epistemicism would imply that there is, despite appearances, some precise cut-off percentage, such that if the percentage primed to make the right move were right at the cut-off, a change in the dispositions of even one speaker would make the difference as to whether most are primed, and so as to whether r_1 minimally entails r_2.[10] This is, of course, massively implausible. On another main treatment of vagueness, entailment in the middle zone would be a matter of

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degree.[11] Between the 'last' (speaking crudely) assent-percentage at which r_1 does not minimally entail r_2 and the 'first' at which it does, r_1 would entail r_2 to ever-greater degrees. I can't make sense of the idea of degrees of entailment. On supervaluationism and 'gap' semantics, in the middle zone, it is neither true nor false that most speakers are primed to assent: there is no fact of the matter about this.[12] Correspondingly, there would, on Swinburne's account, be many sentences *s*, *s**, etc. for which there would be no fact of the matter about whether s minimally entails *s**, and accordingly, about whether other sentences appropriately linked to these entail each other.

A linguistic rule or norm exists just if 'most' speakers would take it to (consistently, etc., and whether or not with an explicit grasp that this is what they are doing). The right-hand side of Swinburne's account is really just an over-simple account of what it is for a commitment by rule to exist. So minimal entailment is really a matter of what one is committed to by rule: one could really simplify Swinburne's account to:

> L-sentence r_1 minimally entails L-sentence r_2 iff L's rules commit someone asserting r_1 to r_2.

I now argue that:

> DC If the rules commit someone to P, it is determinate that they commit him/her to P.

DC implies that if a speaker is not determinately committed, the speaker is not committed at all: if I utter 'P' and the rules don't thereby determinately commit me to Q, I just am not committed to Q, and so it is a determinate fact that P does not minimally entail Q. If this correct, though, there are no indeterminate cases of minimal entailment, because there is no indeterminacy about rule-governed commitment. Since Swinburne's account of minimal entailment generates indeterminate cases on supervaluationist or 'gap' semantics, then, if DC is true, Swinburne's account is inconsistent with these approaches. I note that DC does not imply that there cannot be vague rules. Of course there can: but vague rules can have clear cases of application, and if DC is true, a vague rule does not generate commitment save in cases where its import is clear. Nor does DC imply that rules do not evolve over time as habits of speech change, or that during this evolution there are never cases in which it is indeterminate just what the rules *are*. DC implies only that to the extent that it is indeterminate what the rules are, it is indeterminate to what speakers are committed, and in these cases there is no commitment actually made – i.e. where the rules are indeterminate, there are on Swinburne's account no minimal entailments.

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I first survey theories of vagueness. DC is obvious on epistemicism, for on epistemicism there is no metaphysical vagueness: the 'middle zone' consists only of cases where we do not know whether a commitment is made, and if the percentage of speakers is over the precise tipping point to constitute 'most', it is determinate (if unknown) that it is. If we take 'commit' to imply degree-1 commitment rather than any lower degree, DC is equally obvious on 'degree' theories of vagueness. (In fact, on degree theories, DC is just a limit case of a form of principle true in all cases, that if the rules commit me to degree *n* to P, it is determinate that they do so.) If the rules commit me, 'the rules commit me' is true. If it is true, it is not false, or neither true nor false, or in a vaguely bordered zone between being true and lacking truth-value or lacking truth-value and being false. But on theories allowing a middle zone, it is not determinately the case that the rules commit me only if one of these last is true. Thus, the major approaches to vagueness all validate DC.

Consider Swinburne's criteria for rule-commitment. If the rules don't definitely, determinately commit me to Q, it is implausible that if I assert that P most speakers (competent in that portion of the language) will take me thereby to affirm that Q. For it is unlikely that most competent speakers of that portion of the language won't have an adequate grasp of the relevant linguistic rules. Someone with an adequate grasp will not be certain that a commitment exists in cases where its presence is not determinate. Someone uncertain about this and fairly rational will not take me to have committed myself to Q. And it is unlikely that most competent speakers of that portion of the language will not be fairly rational. Again, if the rules don't definitely, determinately commit me to Q, it is implausible that if I assert P most practised speakers will see what I say as involving Q; they would be less sure and more cautious. If the rules don't definitely commit me to Q, it is implausible that if I assert that P most practised speakers will see that-Q as part of what I've said. They will instead at best be unclear on this. If the rules don't definitely commit me, my hearers would not be at a loss to understand what claim I made by P if I denied Q. So relative to Swinburne's criteria for commitment, it seems implausible that there can be rule-commitment without determinate commitment.

If I'm right about DC, then, two of the major theories of vagueness are incompatible with Swinburne's account. The other two are implausible, and their implausibility must therefore rub off on Swinburne's account. Further, since DC eliminates indeterminate cases of entailment while the claim that entailment is determined by what 'most' speakers are primed to say allows for them, my argument suggests that entailment does not actually turn on what 'most' speakers are primed to say. Standard modal accounts of entailment define it in non-vague terms. They have found wide acceptance because there are widespread intuitions that entailment is *not* a vague concept. On a standard strict-implication account, P entails Q just if it cannot be the case that P is true while Q is false. This is no

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vague matter. There are no borderline cases of compatibility, given determinacy of what a sentence says, if the sentence is not itself vague. Compatibility relations between vague claims are easily dealt with by a three-valued logic in a way which leaves no vagueness about entailment.

Nor does entailment seem a matter of convention. It may be a matter of convention what 'P' and 'Q' say. But given sufficient conventions to settle what they say, it is not a matter of convention whether it cannot be the case that P is true while Q is false. Swinburne holds that predicates designate properties, and moreover that every predicate does so (save, one presumes, for paradox-generating ones) (*CG*, 10). 'Cold', for instance, designates coldness. But 'cold' doesn't designate itself. What designates 'cold' is not 'cold' but ''cold''. Nor is it plausible that 'cold''s designating coldness is its designating some other word. Thus, for Swinburne, properties are not predicates. They are instead something non-linguistic. But if properties are not predicates, sentences have a content which determines their compatibility relations. Their referring terms refer due to non-conventional causal facts linking the mind with its environment. Predicates designate what they do due to similar facts, though the sort of causal pattern involved differs. Sentences' content is determined by what items their referring terms pick out and which properties they predicate. Which properties are compatible with which and which referents can coexist with which are not conventional matters, if the properties and referents are not created by convention.

Swinburne on non-contradiction

Swinburne has defended the conventionality of PNC as follows:

> Philosophers postulate propositions as what is meant by some sentence, and they endow these with (sharp) properties. A sentence means either this proposition or that one. They decide that they are either true or false. So contradictions must be false … the 'impossibility' of [a contradiction being true] is a consequence of the understanding of 'contradiction' in this framework. In ordinary language 'it is and it isn't raining' can be true. That's why it doesn't express a proposition of the form 'p & ∼p' … the necessity arises from the framework that we have … created; the rules of classical logic as opposed to human language.[13]

Swinburne has it that we sometimes use ordinary-language constructions like 'it's raining and it's not raining' to say something true (as when we use them to express that the weather is a borderline case of raining – perhaps misting). So when we insist in doing logic that contradictory sentences can't say anything true, we're just adopting a convention to treat such sentences differently. This defence sits ill with Swinburne's account of logical laws as 'generalisations of … patterns of entailment in ordinary language (i.e.) logical relations between sentences recognizable in particular cases' (*CG*, 109, 108). If, in fact, we violate PNC in ordinary speech, logic is a regimentation of ordinary discourse, not a

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generalization upon it: it adopts different conventions than those governing ordinary entailment, or else only a subset of the ordinary conventions. And Swinburne's example is unconvincing. For one thing, if the example is *really* a true contradiction, then there *are* true contradictions, and so it follows that every sentence is true:

It is raining and it is not raining.	[premise]
It is raining.	[premise, by simplification]
It is raining or Tony Blair is Pope.	[by addition]
It is not raining.	[premise, by simplification]
Tony Blair is Pope.	[by disjunctive syllogism]

Thus, the mere fact that Blair is not Pope suffices to show that Swinburne's example is not what he says it is. It is not a true contradiction, nor even a contradiction we treat as true. If someone says 'it's raining and it's not' and I say 'You've contradicted yourself', the reply will surely be: 'Not really. You're missing the point.' Ordinary speakers do not think that this is both a contradiction and true, even speakers innocent of formal logic. They take it as a striking way to say something true indirectly; the conventions are not that contradictory sentences are sometimes true, but that false sentences can sometimes be used as a way to suggest true ones. There is a perfectly good ordinary-language way to say what someone who tokens 'it is raining and it is not raining' wants to suggest which does not violate PNC – viz. 'it's misting'. So too 'he's a married bachelor', e.g. 'he's married but lives like a bachelor'. In each case, the second paraphrases the first – and so the first paraphrases the second. If the first paraphrases the second, one wants to say that it really expresses a true proposition, not a contradiction. But Swinburne will have none of propositions – as he sees it, there are just sentences (*CG*, 106).

Still, even within this cramped ontology, we can make the needed distinction. Paraphrase can be parsed as a relation among sentences, without commitment to meanings, and so talk of paraphrase does not require us to violate Swinburne's 'logical nominalism' (roughly, his commitment to reject meanings and Platonic propositions) (*CG*, 105–106). Proper paraphrase preserves non-contradictoriness and truth-value. So the contradictory sentences which Swinburne believes say something true are really improper paraphrases used to suggest something they don't properly paraphrase. PNC is a principle governing the assignment of truth-values to sentences with no proper non-contradictory paraphrases. As such its use is not a convention we drop at will. We use it to evaluate all sentences whatsoever. But we so use it that paraphrase-tests may be relevant to what judgement it renders.

Now even if this argument succeeds, it is compatible with the claim that PNC is just a convention we apply universally but could treat differently. But at the least,

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Swinburne would need a different sort of argument to claim that it is this sort of convention. And a more basic point is that he needs an argument – because we have strong intuitions that PNC's truth does not depend on us. If that's right, I don't need a positive argument for its non-conventionality; absent reason to opt for the less initially intuitive position, the more initially intuitive wins.

Swinburne claims that contradictions lack 'ultimate sense': if

> … the consequences of … sentences [include] an explicit … contradiction … although it is prima facie conceivable that these sentences be true, it is not ultimately conceivable; they only make initial sense. They do not make ultimate sense. [They are] not conceivable by someone who begins to fill out … what a world would be like in which [they were] true. (*CG*, 111, 113)

The first thing to ask is what sort of conceivability is in question. We can't imagine or picture a world that would make a contradiction true. But we can't imagine or picture the null set's existence or its non-existence, and all the same either it exists or it does not. So inconceivability of this sort isn't sufficient for logical impossibility, or for lacking sense (possibly true claims have every relevant sort of sense). We can't imagine or picture a strongly analogous model for a contradiction's truth (as we can use marbles to model the solar system or the Rutherford atom). But again, we can't do this for the null set's existing (because nothing visible provides a strong analogue to its distinctive properties) or not existing. If 'we can't conceive it' just means that we can't describe it without contradiction, then 'we can't conceive how the world would be if a contradiction were true' reduces to 'we can't fully describe without contradiction how the world would be if a contradiction were true' – which hardly seems to explain some way in which contradictions lack sense.

But what else can conceiving be? If being inconceivable is just entailing a contradiction, it can't explain Swinburne's claim that contradictions lack sense. On the other hand, if being inconceivable is something other than entailing a contradiction, there is a problem for Swinburne's claim that PNC is conventional. We have just seen him suggest that contradictory sentences lack ultimate sense due to our inability to conceive their truth; he continues below that PNC is true because what can't have this sort of sense can't be true and so is false. But it is not a conventional matter that contradictions are inconceivable to us. Convention comes in at the level of what sentences say what. But once it is determinate what they say, whether we can conceive what they say is a fact about our powers of conception. We do not determine what these are.[14] Our natures, not our languages, impose their limits: it is up to us what sentences say what, but it is not up to us what is conceivable to us, and so it is not up to us what conceivable situations we can use sentences to express. If narrow logical modalities are relative to anything, then, they are relative to our natures, not our conventions. But we must say even this only if we must say that contradictions lack some sort of sense

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because we can't conceive how the world would be if they were true. And so far I have seen no reason to say this.

Absolute necessity

'Necessarily' can express many different concepts. Something is the case with nomic necessity just if, given the actual natural laws, it cannot fail to be so.[15] Something is the case with real necessity just if, given the actual natural laws and the universe's initial conditions, it cannot fail to be so. Nomic and real necessity are necessity, *given* some condition. Because each deals in necessity relative to some condition, we can call these relative sorts of necessity. If we have the concept of a relative kind of necessity, we can also form the concept of a non-relative or absolute necessity, the concept of a necessity *not* relative to some condition, but *simpliciter*.

More than this is, in fact, hinted even in the way I've explained nomic necessity etc. For I've said that what is nomically necessary is such that it is impossible that it not be so given the actual laws, and this is just to say that it is *necessary* that it be so given these. There was no modifier or condition on 'necessary' in this second use: I explained a relative modality by using a modal term in a way not obviously relative. If this was a genuine analysis, relative modal concepts involve absolute ones. If it was at least a good explanation, perhaps our understanding of relative modalities depends on an understanding of absolute modalities. We can at any rate see that we can form the concept of an absolute modality as follows.

The sentence 'it is physically necessary that P' asserts that

(1) It is necessary that P given that s_1 and s_2 and …,

where s_1 etc. are sentences stating only and jointly all actual natural laws.[16] (1) instances a schema,

(2) It is necessary that __ given that __ and __ and … .

Each relative-necessity phrase like 'it is physically necessary that __' in effect expresses the result of plugging the members of a different set of sentences into (2). One might restrict the substituends for (2) to what I soon call broad-logically (BL) possible sentences. This would leave us free to define any more restricted sort of necessity in their terms. It wouldn't generate a circularity in defining broad-logical necessity, either. For one thing, that necessity and possibility are formally interdefinable doesn't rule out taking one as primitive and defining the other in its terms.[17] For another, if we make the restriction, we don't thereby change (2) to

It is necessary that __ given that possibly __ and possibly __ and … ,

so the formal definition remains uncircular.

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Further, in defining *absolute* necessity, as emerges below, we fill no blanks in: absolute necessity is conditional upon nothing, and so upon nothing absolutely or in any other way possible. So the restriction in effect does not apply to this case. This is *not* to say that the absolutely necessary is necessary given any or all *s*. It is to say just the opposite – that there is no need or possibility of giving an *s*. Below, we see a sense in which absolute necessities hold no matter what else is so – but this isn't built into the concept. Still, one needn't restrict the substituends for (2) at all. Suppose we do not. Then among the permissible values will be BL or NL impossible sentences, and some sorts of necessity will be definable which are conditional on impossibilities. Call these I-necessities: then I-necessities will be true in just the possible worlds in which these impossibilities are true, i.e. none at all. I-necessities, then, will be necessarily coextensive with narrow and broad logical impossibilities: I-necessity will be the disjunction of these two modalities. If there is nothing wrong with the modalities themselves, there is nothing wrong with the disjunction. I-necessities will be necessarily false: so what?

Now if we understand the result of plugging the members of one set of sentences into (2), we are able to understand the result of plugging in the members of another. The null set $\emptyset$ is a set (*inter alia*) of sentences. So we can understand the result of plugging the members of the null set of sentences into (2). This result would be, in effect,

> It is necessary that P given the truth of the members of a null set of sentences,

or,

> It is necessary that P given a null set of conditions,

or simply,

> It is necessary that P.

To say that P must be true, given a null set of conditions, is to say that P must be true, period. A sort of necessity P has given a null set of conditions is not really conditional on anything. It is absolute.

The narrow logical modalities, I submit, are absolute. What entails a contradiction just can't be true – period. This is not a matter to which any conditions are relevant. Nor then are conditions relevant to narrow logical modality. Consider the narrow-logical necessity that

> AB All bachelors are unmarried.

Now suppose, counterpossibly, that some bachelor is married: the conditional

> If some bachelor is married, all bachelors are unmarried

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is true, and so we can still detach AB. AB comes out true even if we suppose it to be false. So too, every conditional with AB as a consequent is true, and so for any P, AB's truth requires neither that P nor that ∼P. Thus, its truth depends on no condition whatever, even the condition that the NL impossible is not actual.[18]

Narrow logical modality is not the only absolute modality. Necessarily,

R Nothing is red and green all over at once.[19]

This necessity is more than nomic. The laws strictly imply R: no matter what, if (e.g.) $E=MC^2$, R is true. But equally, no matter what, if $E=MC^3$, R is true. And this means that the necessity that R is stronger than nomic.[20] In fact, our intuition is that altering natural law, however greatly, cannot affect whether R. This is a matter independent of natural law. This necessity does not seem relative to any further condition; it seems to rest solely on the nature of colour itself, and so to be absolute. But though the matter has been controversial, ∼R does not seem to entail a contradiction.

Swinburne has suggested in correspondence that it does. He notes that *A is red and green all over* entails *A is red and non-red all over*, and the latter entails *A is not non-red and is non-red all over*. But *A is not non-red all over* admits of two readings. On one it does not contradict *A is non-red all over*. It instead involves an internal negation, the predication of a (doubly) negative property. To contradict *A is non-red all over* would require instead the external negation *it is not the case that A is non-red all over*. Take the negation as external (our second reading), though, and we have something that does not represent part of the content of *A is red and green all over*. If something is green all over, it *is* the case that it is non-red all over. So on neither reading is *A is red and green all over* a contradiction. Nor does *A is not non-red and is non-red all over* entail a contradiction. Something would be non-red all over if it were fuzzy all over, being fuzzy being one way of being non-red, but being red and fuzzy all over is not a contradiction.

If it be objected that conversational context requires us to take 'is non-red' as a colour-predicate, as in effect 'has some determinate of *coloured* other than *red*', we still must consider the way determinates of colour exclude one another. Swinburne needs to show that this exclusion turns on a contradiction generated by having two distinct determinates of the same colour. He cannot simply insist that this *is* a contradiction, as this would beg the question. So he must show that something entailed by being the one colour contradicts something entailed by being the other.

But determinates of phenomenal colour can't be defined in genus-species terms, as if in conjunction with some determinant, *coloured* generates *red*. That is, there is no definition of *phenomenal red* as *phenomenal colour which is C*, where C expresses some phenomenal property other than redness itself. For this reason, there is no possibility of finding some C within the concept of phenomenal redness and some C* within the concept of phenomenal greenness such that having

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a colour which is C* might contradict having a colour which is C. (For that matter, recognitional concepts like phenomenal redness and greenness might not be definable at all.) So I don't see much hope of pulling some entailment of the right form to be a contradiction out of *something is red and green all over*, at least where the colour-properties are phenomenal. The properties exclude one another, but not in virtue of their joint exemplification entailing a contradiction due to their conceptual content. But in what other way could it entail a contradiction?

Swinburne also suggests that 'being red all over' entails 'not being green all over'. Recognizing that the latter entailment holds depends on seeing that 'it is red and green all over' makes no sense.[21] The moves Swinburne suggests are:

(3) A is red all over;
(4) 'A is red and green all over at once' makes no sense;

So,

(5) It is not possible that 'A is red and green all over at once' is true.

so,

(6) 'A is red all over' entails 'it is not (then) the case that A is green all over'.

So,

(7) 'A is red and green all over at once' entails 'at some time, A is green all over and it is not the case that A is green all over'.

But contra (4), we can make some sense of 'A is red and green all over at once'. We understand the claim it makes. We can see what would follow from it. There have even been experiments in which subjects claimed to see something of this sort.[22] Whether or not they did so, they certainly understood the predicate 'is red and green all over at once' well enough to report seeing it satisfied, in experimental circumstances designed to produce that result. So taken in terms of standard criteria of making 'ordinary' sense, (4) is not overly plausible. Perhaps Swinburne has in mind in (4) his notion of making 'ultimate sense'. But as he explains this,

> We may utter a sentence which seems to describe a way things might be … a true logic will reveal all [sentences'] consequences … and someone who knew that logic and drew those consequences would (if the sentence expresses a necessarily false proposition) reach an explicit self-contradiction … . We may describe this situation by saying that although it is prima facie conceivable that (the sentence) be true, it is not ultimately conceivable; [it] only make[s] initial sense. [It does] not make ultimate sense. (*CG*, 111)

Taken in terms of Swinburne's 'ultimate sense' then, (4) would seem to be an assertion that the claim in question entails a contradiction. Since we're

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trying to reach the *conclusion* that that claim entails a contradiction, on this reading (4) makes the argument beg the question. But above we saw no other way to take Swinburne's talk of ultimate sense. I take it, then, that R is an absolute necessity which is not a narrow logical necessity. But there are other examples too.

Consider the claim that Hesperus is not Hesperus. This hasn't the right form to be a contradiction; hence it is not a self-contradiction. As to entailing a contradiction, perhaps we can take this as a claim that something which is Hesperus isn't Hesperus, i.e. $(\exists x)(x = \text{Hesperus and } \sim(x = \text{Hesperus}))$. This generates a contradiction when instantiated and is true only if it has an instance. But someone who said that Hesperus is not Hesperus presumably wouldn't hold that anything else is either: if Hesperus isn't Hesperus, nothing is. So I doubt that he would mean to be committed to $(\exists x)(x = \text{Hesperus})$; the contradiction-yielding formulation doesn't express what he means to say. There is clearly an impossibility here, but it does not appear to be a form of self-contradiction.

Again, mathematical statements seem to be necessary truths.[23] So consider such contra-mathematicals as that $1+1=3$ or that $2=3$. These are impossible, but like 'Hesperus $\neq$ Hesperus', the impossibility doesn't seem to involve self-contradiction. These are inconsistent with mathematical theses: it cannot be the case that $2=3$ if, interpreting succession as a relation among the natural numbers,

> No two natural numbers have the same successor,
> $2=1$'s successor, and
> $3=2$'s successor.

These jointly entail that $2 \neq 3$. So $2=3$ entails their joint negation. But their joint negation isn't in form a contradiction and doesn't seem to entail any. Again, if mathematics is a body of necessary truth, the widely accepted claim that mathematics in some sense 'reduces' to set theory[24] entails that the axioms of the set theory to which it reduces are also necessary. But it is unclear that the negations of any of these axioms entail contradictions. The Zermelo axioms assert that there are an infinite and an empty set. Is it a contradiction that there not exist an infinite set? An empty set?[25]

So, there seems to be a kind of absolute modality which is not narrowly logical – not based on relations to contradictions. One could give still more examples, but the most basic point is this. Our account of narrow logical modality invoked entailment. On the best available account, this notion is modal. It is strict implication[26]: P entails Q just if it cannot be the case that P is true and Q false. And so we face the question of how to explain this 'cannot'. It would be circular or infinitely regressive to take it as a narrow logical modality. A regress would not explain at all. A circular account would be vacuous. Swinburne might suggest something normative, along the lines of 'the rules do not permit that P be true but

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Q false', but I've already rejected this. Swinburne might instead try to gloss this in terms of conceivability, as 'it cannot be conceived that P is true and Q false'. But then he would have to show why it is illicit to understand this as 'it is necessarily not the case that someone conceives that P is true and also conceives that Q is false', whose modality appears absolute. He'd also have to explain what sort of conceiving is in view here – again, describing without contradiction would yield a circle or an infinite regress – and why we should take it to be linked to genuine objective possibility. Further, we can raise a difficulty involving individual essences.

An individual essence of an item A is an attribute had by A in all worlds in which A exists and by nothing other than A in any world. Once an item A exists, it at least has the trivial individual essential property of being identical with A. But Christopher Menzel and others have contended that before particulars exist, they have no individual essences, and accordingly there are no possibilities for exactly those individuals.[27] Instead, there are possibilities for individuals having all of A's attributes other than A's individual essences – e.g. for people qualitatively just like Swinburne, lacking only the property of identity with Swinburne. Suppose that this is how things are for at least some sorts of thing. Then there are times at which no-one can conceive that P and yet God can bring it about that P. Prior to there being some thing A with no pre-creative individual essence, no-one can have it in mind that A have F. Nonetheless, if God wills that something qualitatively just like A have F, He may wind up with A having F, though not by having intended it.

In this case, then, there is a time at which no-one can conceive that P, nor then that (P • ∼Q), and yet it does and so was possible that it turn out that (P • ∼Q). At that earlier time, A's being F was possible in virtue of the purely general possibility of something just like A's being F. If nothing else, once A is actual, it becomes the case that that general possibility was a possibility that A be F, but it also seems fair, if paradoxical, to say that when that earlier time was present, the general possibility was then a possibility for A, though not for A to the exclusion of other particulars that could have emerged from God's act. But this was not enough to render A conceivable. To conceive of A is to conceive of just A, not something just like it. So the entailment from inconceivability (however specified, as long as it is not just a matter of entailing a contradiction) to impossibility fails if there can be things without pre-creative individual essences.

Suppose then that there cannot – that every possibility for an individual always involves some individual essence of that individual. Then it is certainly not the case that inconceivability *to us* implies some sort of objective impossibility. For there surely are individual essences we cannot conceive, ones to which we have no access at all, and yet it is possible that the individuals whose essences they are exist. So the move from inconceivability in *our* case to impossibility fails – which undercuts Swinburne's whole modal epistemology.

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Our account of narrow logical modality also invoked the claim that:

C Necessarily, no contradiction is true.

Let's ask what C's 'necessarily' can signify. We can't go down the routes just scouted. Perhaps, then, Swinburne would take it as 'the negation of ___ is (ultimate) nonsense', an operator yielding a claim from which Swinburne might infer falsity by the route 'it's nonsense, so it can't be true, so it's false' (*CG*, 114). But this can't be right (apart from the fact that it requires some explanation of what, other than entailing a contradiction, it involves to be ultimate nonsense). Swinburne holds that all necessary truths are necessary because their negations entail self-contradictions. What entails nonsense is nonsense itself.[28] So, for Swinburne, in the case of necessary truths, 'not' always generates nonsense from sense. I do not see how a logical operator could do that. The function of 'it is not the case that' is to reverse truth-value: that is, it is to generate a false sentence from a true one. It is not to generate nonsense from sense. Again, nonsense can't be true, but if it is nonsense, the right consequence would seem to be not that it is false but that it doesn't bear a truth-value at all.

Swinburne has suggested (in correspondence) that the sense of C is along the lines of 'it is against the rules to let a contradictory sentence count as true when doing logic' – this being one more instance of his deflation of alethic into normative notions. I've already criticized this. Per my discussion, it seems that any appeal to a relative modality would simply bring us back to some sort of absolute modality.[29] But it would be circular or infinitely regressive to take this absolute modality as narrow-logical. It doesn't seem satisfactory to rest with a circular account here. True, in some families of terms, one can't break out of such circles, and can only try to explicate terms in the family by making the circle as wide as one can and invoking examples – e.g. moral terms. But when it comes to C,[30] the circle seems unacceptably narrow. For then C amounts at once to

C* That some contradiction is true entails that some contradiction is true,

which is hardly illuminating. C certainly doesn't *seem* like a case of P→P. Nor does C seem vacuous. But C is vacuous if C means C*. Further, on a modal account of entailment, C* in turn amounts to:

> It can't be the case that some contradiction is true and no contradiction is true,

which includes C and so can't illuminate it, and in addition amounts to:

> That some contradiction is true and no contradiction is true entails that some contradiction is true –

which still leaves us none the wiser.

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Again, in our definitions of the narrow logical modalities, the right sides give the meaning of or explain the left sides. So if the impossibility in C is narrow-logical, C* gives the meaning of or explains C. But C* can't explain C. It's hard to see how a case of P→P could explain anything, but in addition it seems instead that we need to bring in C again when considering C*. For when we consider C*, we think this tells us why C is true only if we're covertly accepting that C: that is, C* only seems relevant to the question of why something is impossible if we suppose that contradictions can't be true and add this to the consequent. So I take it that we have a coherent, contentful concept of narrow logical modality only if we also have a coherent, contentful concept of at least one other sort of absolute modality, which we can bring in to explicate C and entailment.[31]

To avoid a circle, we must not explain this sort of modality in terms of entailment. To avoid a fruitless regress of kinds of absolute modality, we must not explain it in terms of any other sort of modality. Modal concepts of this sort must be primitive. Plantinga calls this sort of modality 'broadly logical', Kripke 'metaphysical'.[32] The extensions of broad and narrow logical modalities are related this way. It is BL impossible that contradictions be true. So whatever is NL necessary is also BL necessary. But there are (I've argued) cases of BL necessity which are not cases of NL necessity. If P is BL necessary, but ∼P does not imply a contradiction, ∼P is NL but not BL possible. And so not everything NL possible is BL possible. For instance, that something is red and green all over at once is BL impossible but NL possible. But as whatever implies a contradiction is BL impossible, broad logical possibility implies narrow.

Broad logical modalities are objective. That is, whether a thing is (say) BL possible is independent of whether anyone does or can conceive, believe or know it to be so. Broad logical modal concepts are primitive, and I suggest that all other objective modalities are definable in their terms: e.g. it is nomically possible that P just if it is BL possible that P and s_1, s_2 … , nomically necessary that P just if it is not BL possible that ∼P and s_1, s_2 … . Thus whatever is objectively possible in any other sense is BL possible, but perhaps not vice versa.

So too, BL necessity is the strongest sort of objective necessity. Whatever is BL necessary is objectively necessary in every other sense: it holds no matter what possible thing occurs, period, and so holds in e.g. every possible situation which would include our natural laws. Swinburne is sceptical: having offered an account of some Kripkean case of broad logical modality which reduces them to cases of narrow, he writes that:

> Anyone who makes a claim about what is [BL] possible or impossible where this is not analysable in the above way owes … an explanation of what '[BL] possible' means … . I simply do not understand what is meant by this notion unless it is analysable [in this way] … . It is simply uninformative to say that it is the most basic conception of 'how things might have been'. For since this 'most basic conception'

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> is supposed to be narrower than logical possibility, it is unclear how it is to be narrowed unless in the way I have analysed.[33]

But Swinburne is willing to tolerate talk of possible worlds (*CG*, 145). He is also willing to say that there is an 'outermost' set of possible worlds – that kinds of possibility do not regress without limit, but instead terminate in a single kind with greatest extension, which he thinks is narrow logical possibility (*CG*, 145). So I begin from a claim using only concepts he thinks legitimate: in whatever sense there 'are' worlds possible with the outermost sort of possibility, there 'is' such a thing as all of them. I continue: being BL possible is occurring in at least one of all of them. Being BL necessary is occurring in them all. Some broad logical necessities are and others are not such that their negations imply contradictions. Where and only where a broad logical necessity is of the latter sort, there is a narrow logical possibility which is not also broad. The issue is not by what principle to restrict the stock of narrow logical possibilities to get the broad ones, but rather how to expand the stock of broad ones to get the extra narrow ones. I've now indicated how to do so.

Divine narrow logical contingency?

Swinburne's case for (II) is this:

> A world without a particular substance or … kind of substance seems always to be a coherent supposition … no set of propositions which describe such a world seem to entail a self-contradiction. The supposition of the existence of a Godless universe … seems evidently coherent, and so should be taken to be so in the absence of positive counter-argument. All ontological arguments that purport to show the logical necessity of God's existence seem to me unsound. (*CG*, 144–145)[34]

Swinburne's argument is that:

(8) *God does not exist* appears coherent.

So,

(9) *God does not exist* is NL possible unless there are good counter-arguments to this claim.
(10) There are no such counter-arguments.

So,

(11) *God does not exist* is NL possible.
(12) A proposition is NL necessary only if its negation is not NL logically possible.

So,

(13) *God exists* is not NL necessary.

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Swinburne's support for (10) is his claim about ontological arguments. It's not obvious that these do deal in narrow logical modalities, but let's bracket this concern. One reason Swinburne gives for his claim is that:

> … the premises of … an ontological argument do not merely entail the existence of God, but provide a reason why he exists … . But God would seem less than totally supreme if he depended for his existence on … a general logically necessary principle … the claim that there is logically sufficient reason why God exists would seem to make God in some way less ultimate than he would otherwise be' (*CG*, 144–145).

But here Swinburne seems to be supposing that ontological arguers must be Platonists about divine necessity. They need not.

There are two broad approaches to relating God to possible worlds. One, which we can call Platonic, sees possible worlds as existing independent of God, and sees God's existence as necessary because in each, God exists: it is necessary, then, because of the contents of independent possible worlds. This threatens to make God's existence derive from items independent from Him: the worlds are there independently, that He is in all of them entails that He actually exists, and so (one might think) worlds' contents explain God's existence. But surely nothing outside Him explains God's existence. Thus, most who accept divine necessity have sited possible worlds somewhere in God. Leibniz, for instance, saw them as ideas in God's mind.[35] He thought, in addition, that God's nature determines of what worlds God has ideas.[36] Thus, for Leibniz, in the end, God's being absolutely necessary consists entirely in facts about the divine nature and its contents. Aquinas varied the picture slightly, holding that possible worlds exist in God's power, not His intellect.[37]

Unless no such view as Aquinas's or Leibniz's is consistent with offering an ontological argument – a thing that would take showing – an ontological arguer can simply say that all 'logically necessary principles' he/she employs are ultimately (in the order of being) facts about the divine nature, intellect, or power. (In the order of knowing, of course, they will be independent of these.) The ontological arguer can say either that these principles do not explain God's existence, but just display a bit more of what it involves, or that if they do explain it, they give some sort of entirely internal explanation. Thus Swinburne's (10) must depend on some other reason to consider ontological arguments unsound.

But consider the following, which is essentially Anselm's *Responsio* argument:

(14) Possibly God exists. [premise]
(15) Necessarily, if God exists, He exists necessarily. [premise]

So,

(16) Possibly necessarily God exists. [14, 15, by modal rule]
(17) If possibly necessarily God exists, God exists. [instance of Brouwer axiom]
(18) God exists. [16, 17]

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This argument is valid. So it is sound if (14), (15), and (17) are true. Theists will hardly dispute (14). As Swinburne makes his claim about ontological arguments' unsoundness to dispute (15), he can hardly use a rejection of (15) in turn to dispute ontological arguments' soundness, unless he has some other, independent argument against it. If Swinburne has a case that the Brouwer axiom is not true for narrow or broad logical necessity, he has not offered it.

Further, ontological arguments purport to show God's existence, not His necessity. Anselm's *Proslogion* 2 argument could not do so, as it contains a contingent premise. Modal ontological arguments even premise His necessity, and so could hardly be adduced to support it. So even if all ontological arguments were unsound (for reasons other than premising God's necessity), this would be irrelevant to (10). Swinburne suggests that they 'in effect' argue that God exists necessarily, because they purport to deduce God's existence from necessary premises, and if all premises of an argument are necessary, so is its conclusion.[38] But only the S5 modal version, and perhaps Descartes', have only premises we must take as necessary – and again, the S5 version premises divine necessity and so cannot reasonably be taken to be trying to demonstrate it, even implicitly. The Brouwer modal system, used in (14)–(18) above, allows both contingent possibilities and contingent necessities, and so neither (14) nor (15) above can be assumed without argument to be necessary.

I have elsewhere given precisely the sort of counter-arguments that (10) in effect requests.[39] It seems to me, then, that Swinburne has to block these and their kin to convince us to accept (10). Further, even if (8) is true, *God exists necessarily* also appears coherent. (I see no way to pull a contradiction out of '*God does not exist* implies a contradiction'.) If it did not, there would be no debate over its status: it would instead be obviously untrue. Absent any reason to privilege one appearance over the other here, the existence of an opposed intuition is a further counter-argument to (10).

Swinburne himself distinguishes between the surface appearance of coherence and making 'ultimate sense'. Whether *God does not exist* makes such sense depends on what sort of God we have in mind. Suppose that, as Aquinas and Leibniz thought, the referents of possible world-terms exist in God. Then to conceive God's nonexistence fully would be to conceive *inter alia* that there are no possible worlds – that nothing is so much as possible. But then if God did not exist, we would have it that actually God does not exist, that actually P entails that possibly P, and that it is not possible that God does not exist: an inconsistent triad. If one denies that in this circumstance the inference *ab esse ad posse* would be valid, then if God did not exist, the contradictory of a logical truth would be true – which is itself a narrow-logical impossibility. So if the ontology of modality rests ultimately on God, it is narrow-logically impossible that He not exist.

Seeing the referents of terms for possible worlds as internal to God has been the dominant approach to God and modality at least since Aquinas. So God's

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nonexistence makes ultimate sense only if a long-dominant theist way of explicating necessity is false. This suggests that one can in fact move from prima facie coherence to possibility in this case only if one has another reason to reject this way of thinking about God and necessity. Arguments for Swinburne's global conventionalist account of logical necessity would provide him with one. But his only argument for it is that (so he claims) one can adequately describe the facts about logic and modality without invoking any richer apparatus (*CG*, 106). So if I have shown that the account is not adequate, I have also undercut any reason to believe in it, or any reason Swinburne has so far given, even implicitly, for rejecting the sort of view of God and modality Leibniz and Aquinas provide.

Swinburne, then, does not provide us with good reason to doubt that God exists with broad logical necessity. And even the claim that if God exists, He exists with narrow logical necessity is plausible to the extent that the Thomist or Leibnizian approach to God and modality is. I note in closing, though, that this ground for belief in divine narrow logical necessity does not increase the chances of a dialectically effective ontological argument for God's existence, since one would believe that modal truth-makers lie in God only if one already believed that God exists. For Aquinas or Leibniz, God's nonexistence is not ultimately conceivable, but it does not follow that only a fool believes in his heart that there is no God.

Notes

1. J. N. Findlay 'Can God's existence be disproved?', in Antony Flew & Alasdair MacIntyre (eds) *New Essays in Philosophical Theology* (New York NY: Macmillan, 1955), 49–55.
2. Alvin Plantinga *The Nature of Necessity* (New York NY: Oxford University Press, 1974), ch. 1, *passim*; Saul Kripke 'Naming and necessity', in Donald Davidson & Gilbert Harman (eds) *Semantics of Natural Language* (Dordrecht: D. Reidel, 1972), 253–355.
3. So, e.g. Plantinga *Nature of Necessity*.
4. My conventions are these: letters like 'P' abbreviate sentences. Italicized sentence-abbreviations like '*P*' and italicized sentences, like '*God exists*' name the propositions those sentences express.
5. Richard Swinburne *The Christian God* (Oxford: Oxford University Press, 1994).
6. As noted below, Swinburne believes only in sentences, not propositions, and so I follow his usage in speaking of sentences as truth-bearers.
7. These considerations should, *inter alia*, suggest that Swinburne's account is far too simple – i.e. that any successful account broadly along its lines will have to include clauses dealing with these. The account probably needs time-indexing as well.
8. Swinburne has recognized the need for an 'only if' in correspondence, so I supply it here.
9. As of course are 'suitable period', 'right reasons', etc.
10. So, e.g. Timothy Williamson *Vagueness* (London: Routledge, 1994).
11. See e.g. Kenton Machina 'Truth, belief and vagueness', *Journal of Philosophical Logic*, **5** (1976), 47–78.
12. For supervaluationism see Kit Fine 'Vagueness, truth and logic', in Rosanna Keefe and Peter Smith (eds) *Vagueness* (Cambridge, MA: MIT Press, 1996), 119–150. For the 'gap' approach see Michael Tye 'Sorites paradoxes and the semantics of vagueness', in *Philosophical Perspectives*, **8** (1994), 189–206.
13. Private correspondence.
14. Some might reply, 'but by coming up with new language, we render new things conceivable, and so it is up to us what we can conceive'. But there are limits on what we could ever use language to say. These are set by our natures and powers.
15. Whether anything other than the laws' existing falls into this category depends on what the true story about laws is. If they are abstract descriptions generalizing actual behaviour, for instance, there are no

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laws about light unless there is light. Again, if they are relations between properties and properties exist only if instanced, there are no laws about gravitation unless there are bodies to exert gravitational force.

16. Merely possible natural laws would yield a possible set of physical necessities, but if S1 states a merely possible physical law, either (1) does not express the claim that it actually *is* physically necessary that P or (1) is false.
17. See G. E. Hughes & M. J. Cresswell *An Introduction to Modal Logic* (London: Methuen, 1968), 21.
18. This is not to deny that if we suppose AB false, it winds up the case that AB is both true and false. But if it is true and false, it is true.
19. At least, that R is necessary is plausible. But see C. L. Hardin *Color for Philosophers* (Indianapolis IN: Hackett, 1988), 124–126.
20. A necessary truth is one that would hold no matter what. 'No matter what' in effect means 'no matter whether this or that or that … occurs'. Different sorts of necessity differ by having a different 'no matter what' – because there is a different range of situations such that they'd hold no matter whether this or that or that of them occurred. What is nomically necessary, for instance, would be true in any possible situation whose physical laws were just like ours. To say that a claim would be true no matter whether S1 or S2 or S3 obtains is to say that it would be true in all of them. In effect, 'necessarily' is a universal ('all') quantifier over possible situations, saying that the sentence it governs would express a truth in all of these, or that the predicate it governs would be satisfied in all of these. The more situations the quantifier quantifies over, the stronger the necessity it expresses. So if every situation with our laws is an R-situation, but there are R-situations with laws different from ours, the necessity that R is stronger than nomic.
21. Private communication.
22. See Hardin, *Color for Philosophers*.
23. At least to those who consider them truths at all. Swinburne considers abstract particular numbers fictional entities (*CG*, 7) and calls himself a mathematical fictionalist (*CG*, 239), which suggests that he does not think mathematical statements true. (Fictional statements aren't true: just 'true in the story'.) But he recognizes numerical properties (*CG*, 7). One can give an ontology and semantics for mathematics as well in property-terms as in terms of abstract individual numbers, as Russell first intimated and George Bealer has shown; Bealer *Quality and Concept* (Oxford: Oxford University Press), 1983. So while Swinburne calls himself a mathematical fictionalist, it is not clear to me why. He has enough ontology on hand not to be. The fact that any four-membered group is divisible without remainder into two two-membered groups seems a perfectly good thing for '$2+2=4$' to be stating. And fictionalism is not intuitive. Here is a two-membered group of apples. That's fact, not fiction (*CG*, 7). Here are two more. Count them all: now we have a four-membered group, again as fact, not fiction. Even if the act of counting caused one apple to disappear before we got around to counting it, we'd know that there *had* been four there. Now repeat the trick with pears, peaches, plums: it works every time. Put one case of this into logical form, perhaps with special defined 'numerical' quantifiers, universally generalize, and we get a logical translation of the claim that $2+2=4$: properly understood, to assert this is just to assert a universal generalization of the trick we've done. Swinburne, it seems, manages to believe that this generalization isn't true. This is a remarkable feat. I admire it but cannot emulate it.
24. For a selection of testimonials to this effect see Stephen Pollard *Philosophical Introduction to Set Theory* (Notre Dame IN: University of Notre Dame Press, 1990), 1.
25. It contradicts the axioms, of course. But if it sufficed to render P necessary that $\sim P$ contradict P, every proposition would be necessary.
26. That I call this the best available account does not imply that it does not have well known defects.
27. Christopher Menzel 'Temporal actualism and singular foreknowledge', in James Tomberlin (ed.) *Philosophical Perspectives*, V (Atascadero CA: Ridgeview Publishing Co., 1991).
28. On an alethic account of entailment, nothing *can* entail nonsense. But on Swinburne's, this seems allowable.
29. Swinburne may seem to offer an account which does not when he says that the naturally necessary 'is the fully caused' (*CG*, 117). But a full cause just is a cause a statement of whose activity entails the occurrence of its effect by way of statements stating appropriate natural laws. It is a fully explanatory cause, and explanation involves entailment.

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30. Robert Adams points to this as a problem case – see his 'Divine necessity', in Thomas Morris (ed.) *The Concept of God* (Oxford: Oxford University Press, 1987), 43 – but develops the problem differently.
31. I assume that a purely syntactic account of entailment is not a live option.
32. Plantinga *The Nature of Necessity*, ch. 1, *passim*; Kripke 'Naming and necessity', 253–355.
33. Richard Swinburne 'From mental/physical identity to substance dualism', in Peter van Inwagen and Dean Zimmerman (eds) *Persons* (Oxford: Oxford University Press, 2007), 147.
34. Swinburne has another argument against divine necessity: Richard Swinburne *The Coherence of Theism*, rev. edn (Oxford: Oxford University Press, 1993), 274–275. It too rests on the move from coherence to possibility discussed below, and so does not require separate consideration.
35. Leibniz *Monadology*, secs 43–46; *idem Theodicy*, secs 180–185, 335, 351, 380.
36. *Idem On Nature's Secrets*.
37. See my 'Aquinas on God and modal truth', *The Modern Schoolman*, **82** (2005), 171–200.
38. Swinburne *Coherence of Theism*, 273.
39. Brian Leftow 'Necessity', in Charles Taliaferro and Chad Meister (eds) *The Cambridge Companion to Christian Philosophical Theology* (Cambridge: Cambridge University Press, 2010), 15–30.

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