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What Does an Omniscient Being Know about the Future?

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I want to consider the question whether the existence of an omniscient being is compatible with human free will. But is this an important question? Well, I believe in free will and I believe in God and omniscience occurs in all the standard lists of the divine attributes, so naturally I find the question *interesting*. But a question one regards as interesting need not be a question one regards as important. Suppose that Sally believes that God is omniscient and that human beings have free will. If someone convinces her that human free will and divine omniscience are incompatible, why should she not proceed to say something like, 'Oh, that's interesting. I see that I must give up at least one of two beliefs I happen to have. If I can find some time to devote to the question which of the two beliefs to give up, I must think about the matter. Until I find the time for such reflection, I'll just give them both up. I'll thereby avoid logical inconsistency, and I'll also avoid making an arbitrary choice about which of them to give up, which is what I'd have to do if I decided to give up only one of them without devoting sufficient thought to the very complex issues they involve.'? If she did say something of that sort, she'd thereby show that she didn't regard the question whether free will and divine omniscience were compatible as important. I would suppose that one will regard the question of the compatibility of two of one's beliefs as *important* only if one is unwilling simply to give them both up.

Am I willing to stop believing that human beings have free will and that God is omniscient? Am I in fact willing to stop believing *either* of these things? Let us first consider God's omniscience. If I decide to stop believing that God is omniscient, I confront a serious prima facie difficulty, a difficulty that can be summed up in the following argument. God is *aliquid quo nihil maius cogitari possit*, something than which nothing greater can be conceived. And if God were ignorant of various things, it would be possible

to conceive of something greater than he, to wit a being otherwise like him but *not* ignorant of those things. God must therefore be omniscient. And the premise of this argument, that nothing greater than God is so much as conceivable, is something I believe and not something I am willing to stop believing—for to my mind, this Anselmian idea expresses the *concept* of God, the *meaning* of the word 'God'.

But (you may want to ask me), if you think that argument is right, where's the problem? If God must be omniscient and if his omniscience is demonstrably incompatible with human free will (as we are assuming), then, obviously, if I wish to be consistent I must stop believing in human free will. Unfortunately, if I go so far as to agree that God must be omniscient and that divine omniscience is incompatible with creaturely free will, I thereby create for myself a prima facie difficulty that I cannot evade simply by ceasing to believe in creaturely free will. And this difficulty is no less serious than the difficulty I should confront if I chose to stop believing that God was omniscient. This difficulty, too, can be summed up in an argument. The argument turns on the importance of the free-will defence to an adequate response to the argument from evil. The argument is simplicity itself. The single most important reply to the argument from evil turns on the possible truth of the story called the free-will defence, and that story entails both that God exists and (of course) that at least some creatures have free will. If, therefore, I concede that divine omniscience is incompatible with creaturely free will, I deprive the apologist for theism of the single most important response to the argument from evil.

Most Christian philosophers would, I think, contend that these reflections are beside the point for the simple reason that divine omniscience is *not* incompatible with creaturely free will. In my view, however, this sanguine view cannot be maintained. The following argument for the incompatibility of divine omniscience and creaturely free will (it is modelled on certain well-known arguments for the incompatibility of determinism and free will) seems to me to be irrefutable—*provided* (an important qualification) that God is not 'outside time'.

Suppose I must now make a choice between lying and telling the embarrassing truth. If God is omniscient, he either knew (and hence believed) in the year 1900 that I should lie, or else he knew (and believed) in that year that I should tell the truth. Suppose he knew (and believed) that I was going to lie. It follows that I am about to lie. Can it be that this thing I am about to do, this lie I am about to tell, will be a free act? Only if I am able to do otherwise than lie: only if I am able to tell the truth. *Am* I able to tell the truth? If I am, I have, as one might say, access to a possible future (a possible continuation of the present state of affairs) in which I tell the truth. But every continuation of the present state of things in which I tell

the truth has *this* feature: in it, in that future, one of the following two statements is true:

(1) God believed in 1900 that I was going to lie, and this belief was false
(2) God did not believe in 1900 that I was going to lie.

And I have no access to a future in which either proposition is true. Proposition (1) is flatly impossible, as impossible as the proposition that a round square exists, and it is therefore true in no possible future. Proposition (2) is not impossible in that sense, but it is impossible in *this* sense: it is not true in the present state of affairs, and in every possible continuation of the present state of affairs, the same propositions about the 'present past' (the past before the present moment) are true as are true in the present state of affairs.¹ I therefore have no access to any possible continuation of the present state of things in which I tell the truth (since in *no* possible continuation of the present state of things do I tell the truth). I am therefore unable to tell the truth. And, therefore, the lie I am about to tell will not be a free act. A parallel argument shows that if God knew in 1900 that I should tell the truth, my telling the truth would not be a free act. Therefore, I do not have free will with respect to whether I lie or tell the truth. And, of course, this argument can be generalized, the conclusion of the general argument being that divine omniscience is incompatible with human (and, more generally still, creaturely) free will.

I said that this argument seemed to me to be irrefutable provided that God was not outside time. The reason for this qualification is evident: in that case the argument has a false premise—to wit, that God believed *in 1900* that I was going to lie (or, as it may be, was going to tell the truth). Nevertheless, or so it seems to me, it is possible to reconstruct the argument in such a way that the reconstructed argument applies to a non-temporal God—and, nevertheless, retains much of the force of the original argument. And here is the argument.²

Suppose I told a lie at 11:46 a.m. Eastern Standard Time, on 23 December 2006. An omniscient but non-temporal God has—given only that, for every time *t*,

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¹ One can, of course, enter into subtle arguments about which propositions that are apparently about the past are *really* about the past (is the proposition that it was true in 1900 that human beings would set foot on Mars in the twenty-first century really about the past?), but almost all philosophers would agree that any proposition to the effect that someone (God or anyone else) believed something in some past year is really about the past. (And those philosophers who don't assent to that thesis should. If some philosopher's definition or analysis of 'about the past' has the consequence that the proposition that God believed in 1900 that I was going to lie at a certain moment is not 'about the past', that proposition constitutes a counterexample to that philosopher's definition.)

² I apologize for the fact that there is some confusion of tenses in the argument that follows. It is hard to write coherently about the beliefs and acts and abilities of a non-temporal being. I have done the best I could.

any proposition that is about states of affairs subsequent to t, is 'already' true at t or already false at t—the following ability: He is able (acting, of course, extra-temporally) to cause a monument to have come into existence *ex nihilo* in 1900, a great slab of stone on which the following words were inscribed: 'On 21 September 1942, a human being named Peter van Inwagen will be born. On 23 December 2006, at 11:46 a.m. Eastern Time (or Eastern Standard Time, as Eastern Time will then be known), he will have to choose between lying and telling the truth. He will choose to lie.' Suppose God has done this thing he is able to have done. Can it be that my lying—my telling a lie at 11:46 a.m. EST, 23 December 2006—was a free act? That is, was I able, on that occasion, to tell the truth? Well, was there, just before that moment, a possible continuation of the (then) present state of affairs in which I told the truth? Let us consider all the possible continuations of that state of affairs. It is true in every one of them that a monument (inscribed with just the words recorded above) came into existence *ex nihilo* in 1900—and true that its coming to be was caused by God's extra-temporal act of creation. Is it true in any of the possible continuations of the then-present state of affairs that the words inscribed on the monument did not express a true proposition? No, for in that case God would either have been mistaken or have been a deceiver, and both are impossible. My act (my telling the lie), was therefore not a free act, for if it were, I should have had access to a possible continuation of the then-present state of affairs in which no monument (so inscribed) was brought into existence by God in 1900 *or* in which one was but the words inscribed on it did not express a true proposition—and no continuation of that state of affairs that answers to either of these descriptions exists. We may say that the monument in this imaginary case is a 'Freedom-denying Prophetic Object'. The concept of a Freedom-denying Prophetic Object is a very abstract one: a divinely inspired human prophet who has foretold certain actions of human beings would also be a Freedom-denying Prophetic Object. It is no doubt true that very few human actions can be shown to be unfree on the ground that that they were 'foretold' by the statement that they should occur having been somehow being encoded in the structure of a Freedom-denying Prophetic Object—for (no doubt) very few human actions have been so foretold. But this seems irrelevant to the question whether human beings have free will. Suppose God should reveal to us that on a distant, uninhabited planet, he had created, before the existence of the first human being, a vast library that contained minutely detailed biographies (correct in every detail) of all the human beings who would ever live. Would the following be a reasonable reaction to this revelation: 'Ah, then human free will does not exist. But if God had not created that library (and had not done anything relevantly similar), human free will *would* exist.'? Obviously not: although it follows logically from the story of the monument that my lie was not a free act, the fact that my lie was not a free act cannot be supposed to be a *consequence* of the existence of the monument. The case is precisely parallel to this case: if God were to cause there to be a monument in Montana that bore the inscription, 'Tokyo is the capital of Japan', it would follow logically from the features and provenance of monument that Tokyo was the capital of Japan; but the fact that Tokyo was the capital of Japan would no more *depend on* the existence and features of that

monument than it would depend on the existence and features of any other object in Montana.[3]

Might it be that this argument, too, has a false premise, namely that all propositions (including propositions 'about the future') have truth-values?—a premise that both Aristotle and some philosophers of our own time have maintained entails the impossibility of free will for reasons that are independent of any theological considerations. Anyone who wishes to embrace the thesis that at least some propositions about events subsequent to t are neither true nor false at t will have to find some sort of response to the following argument (it can obviously be generalized, for it does not depend on any feature peculiar to propositions about future sea-battles):

The proposition that there will be a sea battle at t [where t is some moment in the future] is true if and only if there will be a sea battle at t

The proposition that there will be a sea battle at t is false if and only if it is not the case that there will be a sea battle at t

hence,

Either the proposition that there will be a sea battle at t is true or the proposition that there will be a sea battle at t is false.[4]

This argument—it is formally valid—is a rather hard argument to get round. I should not like to have to try to find something wrong with it. (And, in any case, it is hard to see how someone who believes that God exists outside time and is omniscient can coherently suppose that propositions about events subsequent to t are neither true nor false at t.)

Whatever other philosophers may think, I find the above arguments for the incompatibility of divine omniscience and human free will convincing. I am therefore faced with a serious problem. Must I concede either that God is not omniscient or that human beings lack free will (and concede, therefore, that the free-will defence is not an acceptable reply to the argument from evil)?

I will respond to this problem by engaging in some permissible tinkering with the concept of omniscience. At any rate, I believe it to be permissible. (I'll later give my reasons for thinking that the tinkering is permissible.) That is to say, I'll revise the standard concept of omniscience in such a way

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[3] I confess that I am not entirely happy about the final part of this argument—the part that starts with 'It is no doubt true that very few human actions …' It lacks the demonstrative rigour of the original argument and the earlier part of the reconstructed argument. It is for this reason that I claim for the reconstructed argument only that 'it retains much of the force of the original argument'.

[4] Cf. pp. 52–4 of my book *An Essay on Free Will* (Oxford: Clarendon Press, 1983).

that the existence of a being who falls under the revised concept is consistent with the existence of human free will, and I'll defend the conclusion that it is possible to regard a being who is omniscient in the revised sense (and is not omniscient in the standard or traditional sense) as *aliquid quo nihil maius cogitari possit.*

In what follows, I am going to suppose that God is everlasting but temporal, that he is not outside time. I make this assumption for two reasons. First, I do not know how to think coherently and in detail about a non-temporal being's knowledge of what is 'from out point of view' the future. (*Vide* my difficulties with tense in my statement of the 'monument' argument.) Secondly, it would seem that the problem of God's knowledge of what is to us the future is particularly acute if this knowledge is *fore*knowledge, if what is from our point of view the future is the future from God's point of view as well.

Now what concept, exactly, is the concept of omniscience—the standard or traditional concept that I confessed I was going to tinker with? One might define 'classical' omniscience like this:

An omniscient being is a being who, for every proposition, either knows that that proposition is true or knows that that proposition is false (and whose beliefs are consistent),[5]

or like this:

An omniscient being is a being who, for every proposition believes either that proposition or its denial, and whose beliefs cannot (this is the 'cannot' of metaphysical impossibility) be mistaken.

These definitions are not equivalent. (Except possibly in this sense: any metaphysically possible being who was omniscient according to one would be omniscient according to the other. Perhaps no metaphysically possible being satisfies either, or perhaps God is the only metaphysically possible being who satisfies either.) The first does not entail the second because knowledge does not entail the impossibility of mistake. (Not, at any rate, if fallible beings like ourselves have any knowledge that is more extensive than 'worst-case Cartesian' knowledge—knowledge of our own existence and of the present content of our own minds and of a few truths along the lines of '1 + 1 = 2'.) Does the second definition entail the first? Not obviously, for someone might maintain that a being who believed that *p* and who could not (in the strongest possible sense of 'could not') be mistaken in

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[5] The point of the parenthetical qualification is this: someone might contend that a being might know (and hence believe) that *p* was true, and, at the same time, believe, inconsistently, that *p* was false.

believing that *p* would not necessarily *know* that *p*—since the impossibility of mistake is not sufficient for knowledge. We might try to address this person's worry by adding something like the following clause to the second definition: 'And that being *knows* that its beliefs have that modal feature'. With that qualification (if it is indeed necessary), I would say, the second definition entails the first.[6]

I'm going to employ the second definition in the arguments that follow, not because it's the stronger of the two, but simply because I find that the way it's worded enables me to state those arguments more simply than I should be able to if I employed the first.[7]

Now consider these two propositions:

 (i) X will freely do A at the future moment *t*
 (ii) Y, a being whose beliefs cannot be mistaken, now believes that X will do A at *t*.

Either (i) and (ii) are consistent with each other or they are not. If they are consistent, there is no problem of omniscience and freedom. (If (i) and (ii) are consistent, of course, there must be some mistake in the argument I have presented for the conclusion that that free will is inconsistent with divine omniscience.) Suppose then that they are inconsistent. If (i) and (ii) are inconsistent, and if X will freely do A at *t*, it is impossible for an infallible being (so to call a being whose beliefs cannot be mistaken), now to believe that X will do A at *t*. More generally, if free will exists, it is

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[6] Here is a third possible definition:

An omniscient being is a being who (at any time) knows every truth (and whose beliefs are consistent).

If this is an acceptable definition of omniscience, there is an interesting argument for the compatibility of divine omniscience and free will. Simply assume, with Aristotle, that propositions about the future free acts of creatures are *now* neither true nor false. Then, if Sally must in a moment freely choose between doing X and doing Y, God does not now know that she will do X and does not now know that she will do Y—but it doesn't follow that he's not omniscient, since neither thing is 'there' to be known. Being omniscient, God knows all truths, but the proposition that Sally will do X is not a 'truth' and the proposition that Sally will do Y is not a 'truth'. This argument faces two serious difficulties. First, it depends on the assumption that certain propositions about the future are neither true nor false. If our 'sea battle' argument is correct, however, then every proposition is either true or false, and the third definition and the first are equivalent. Secondly, I think that most proponents of the standard or traditional or classical conception of omniscience will insist that in the imagined situation God is *not* omniscient; they will insist that the doctrine of divine omniscience entails that either God now knows that Sally will do X or now knows that Sally will do Y.

[7] In any case, I doubt whether any theist would want to say anything along the following lines. 'As a theist, I'm committed to the doctrine that God knows everything. But knowledge does not entail the impossibility of mistake. I therefore see no reason to regard myself as committed to the thesis that God's beliefs cannot be mistaken.'

impossible for there to be an omniscient being—an infallible being who for every proposition believes either that proposition or its denial.[8]

The inconsistency of (i) and (ii) might seem, at least to the uninitiated, not only to imply that, if free will exists, an infallible being cannot be omniscient, but also to imply that, if free will exists, an infallible being cannot be omnipotent. For, if (i) and (ii) are incompatible, then it is intrinsically or metaphysically impossible for an infallible being to *find out* prior to *t* what a free agent will do at *t*—and thus such a being cannot be omnipotent, since it is unable to find out (prior to the event) what a free agent will do. But this argument is invalid on both the Cartesian and the Thomist conceptions of omnipotence. A being that is omnipotent in the Cartesian sense is able to do intrinsically impossible things; a being that is omnipotent in the Thomist sense is, as it were, excused from the requirement that it be able to do things that are intrinsically impossible. And this suggests a solution to the problem of free will and divine foreknowledge: why should we not qualify the 'standard' definition of omniscience in a way similar to that in which St Thomas, if you will forgive the anachronism, qualified the Cartesian definition of omnipotence? Why not say that even an omniscient being is unable to know certain things—those things knowledge of which is intrinsically impossible?[9] Or we might say this: an omnipotent being is *also* omniscient if it knows everything it is able to know.[10] Or if, as I prefer, we frame our definition of omniscience in terms of belief and the impossibility of mistake: an omnipotent being is also omniscient if it is infallible *and* it has beliefs on every matter on which it is able to have beliefs.

The way that point had to be worded is rather complicated; perhaps an example will make its point clearer. Suppose that today I made a free choice between lying and telling the truth and that I told the truth. Suppose that that state of affairs is logically inconsistent with the proposition that yesterday an infallible being believed that today I should tell the truth.

[8] Does 'If free will exists, it is impossible for there to be an omniscient being' mean 'For any world *w*, if there are free agents in *w*, then no being who exists in *w* is omniscient in any world' or does it mean 'For any world *w*, if there are free agents in *w*, then no being [who exists in *w*] is omniscient in *w*'? The former thesis is the stronger, for it entails the latter and the latter does not entail the former. The answer to this question depends on the precise definition of 'being whose beliefs cannot be mistaken', which figured in the definition of 'omniscient'. Since our interest is in the weaker thesis, I need not resolve this ambiguity. (For a further point related to this ambiguity, see n. 11.)

[9] For a brief statement of (essentially) the same idea, see Richard Swinburne, *Providence and the Problem of Evil* (Oxford: Oxford University Press, 1998), pp. 133–4.

[10] It is, I concede, difficult to evaluate this suggestion, since it is difficult to provide a satisfactory definition of omnipotence. (See, for example, the discussion of omnipotence in my book *The Problem of Evil* (Oxford: Oxford University Press, 2006), pp. 22–6.) The suggestion should be regarded as presupposing a satisfactory definition of omnipotence.

Then any infallible being who existed yesterday must *not* then have believed that today I should tell the truth; and, of course, it can't be the case that yesterday it believed that today I should lie. That is, an infallible being must yesterday have had *no* belief about whether I should today lie or tell the truth. And if that infallible being was also omnipotent, it was unable, despite its omnipotence, then to have had or then to have acquired any belief about what I should freely do today. To ask an infallible being now to have or now to acquire any determinate belief about the future actions of a free agent is to ask it to bring about a metaphysically impossible state of affairs.

How might a formal definition of omniscience that embodied this idea be stated? I would tentatively suggest the following. A being *x* is omniscient (in the restricted sense) if and only if it satisfies the following three conditions at every moment *t*:

x is able at *t* to consider or hold before its mind 'simultaneously'and in complete detail every possible world. (Possible worlds are here understood as Plantinga understands them in *The Nature of Necessity*.)

For every set of possible worlds that contains the actual world and is such that it is possible (for any being) to know at *t* of that set that it contains the actual world, *x* knows at *t* of that set that it contains the actual world. (Here 'the actual world' is a definite description, a non-rigid designator of the world that happens to be actual. We could thus also have said, 'For any set of worlds some member of which is actual and is such that it is possible to know of it at *t* that one of its members is actual, *x* knows of it at *t* that one of its members is actual'.)

x's knowledge is closed under entailment (that is, if *x* knows that *p*, and if the proposition that *p* entails the proposition that *q*, then *x* knows that *q*) and *x* believes only what *x* knows (if *x* believes that *p*, *x* knows that *p*).

Using the same apparatus, we could define classical omniscience as follows: a being is classically omniscient if and only if it is at every time able to consider every possible world 'simultaneously' and in complete detail, and then knows *which* of those worlds is the actual world (or 'for any set of possible worlds some member of which is actual, then knows of that set that one of its members is actual' or 'then knows of one of those worlds that it is actual') and its knowledge is closed under entailment and it believes only what it knows. Note that a being who is omniscient in the classical sense will be omniscient in the restricted sense. A being who is omniscient in the restricted sense will be omniscient in the classical sense if and only if classical omniscience is possible. A being may be omniscient in the restricted sense even if classical omniscience is impossible.

Let us consider an example. Under what conditions would x, an omniscient being in the restricted sense, now know that Alice will lie tomorrow? Under the following conditions (if Alice will lie tomorrow, a classically omniscient being will satisfy these conditions; but it does not follow—logically or formally—from the proposition that some being satisfies them that a classically omniscient being is possible): For some set S of possible worlds that contains the actual world, Alice lies tomorrow in every member of S, and x now knows of S that it contains the actual world. Might there be no such set? Yes, at least given any of various assumptions to the effect that it is impossible to know certain sorts of things. Consider this case, for example. Suppose that in the actual world, Alice will *freely* lie tomorrow (and will not also tell some 'unfree' lie tomorrow); suppose that freedom is incompatible with strict causal determinism; suppose that it is possible for any being to know only those things about the future that are now causally inevitable. Then no being can now know of any set of worlds such that Alice lies in every member of that set that it contains the actual world—for, if it knew that of any such set of worlds, it would now know that Alice was going to lie tomorrow, and would thus know something about the future that was not causally inevitable. From the premise that there is no such set, we may easily deduce the conclusion that no being is classically omniscient; it does not follow that no being is omniscient in the restricted sense. Thus, if Alice will lie tomorrow and x does not know this, it does not follow that x is not omniscient in the restricted sense.

This definition is, as I have said, tentative. Such definitions have a way of turning out to require further work. It will at any rate do to go on with.

But, you may well ask, whether this definition of 'restricted omniscience' ultimately turns out to be satisfactory from the point of view of someone who has my worries about omniscience and freedom or not, who am I go about qualifying or tinkering with the standard definition of omniscience? What justifies me in calling the tinkering I have proposed 'permissible'? I said earlier that one (very good) reason for supposing that God was omniscient (in the standard or traditional or classical sense) was that his being omniscient seemed to be a consequence of the Anselmian thesis that he was the greatest possible being. But note: a proposition of the form 'The greatest possible being would have the property F' will be false if F is an impossible property. (Unless the property 'being the greatest possible being' is itself an impossible property. In what follows, I'll assume that 'being the greatest possible being' *is* a possible property—simply in order to avoid having repeatedly to insert the qualification 'unless the property "being the greatest possible being" is an impossible property' into my text. In any case, I don't suppose that this assumption will be controversial among Christians or among theists generally.) If, therefore, 'knows what the future acts of free

agents will be' (or 'has beliefs that cannot be mistaken about what the future acts of free agents will be') is an impossible property, it is not a property of the greatest possible being. And neither will the greatest possible being be omniscient in any sense of omniscience that entails that property, for omniscience in that sense will be an impossible property.[11]

I contend, therefore, that there is no good a priori or philosophical reason to suppose that God is classically omniscient—not if classical omniscience is an impossible property. Might there be some good *theological* reason to suppose that God is classically omniscient?

I will not consider theological reasons for supposing that God is classically omniscient that are binding only on the members of some particular Christian denomination or communion or confession. If the Westminster Confession or the Articles of Religion or the *magisterium* of the Roman Catholic Church require certain Christians to believe that God foreknows the future free acts of human beings, then those Christians are committed to the proposition that there is some sort of error in the argument I have presented for the conclusion that God's foreknowing our future acts is incompatible with our having free will. If there are Christian denominations whose members are required to believe that human freedom and God's knowing every aspect of the future are compatible, then how to deal with the argument is an internal problem (maybe easy, maybe hard, maybe insoluble, but certainly internal) for each of those denominations. I shall ask only whether there are

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[11] But does classical omniscience in fact entail 'knows what the future acts of free agents will be'? Suppose God were classically omniscient but had not created any free agents. Would he have that property? I think it is reasonable to understand 'would know what the future acts of free agents would be' in a sense ('for every free agent, knows what all the future acts of that agent will be') in which in those circumstances he would have the property 'vacuously'. But then 'knows what the future properties of free agents will be' is not an impossible property even by my lights, since it can be had vacuously if in no other way. And classical omniscience will not be an impossible property (even by my lights) since God (for example) will be—at least nothing I have said rules this out—classically omniscient in worlds in which there are no free agents. I think that these difficulties, minor and technical though they are, are real enough. But I would point out that everyone who believes that God is classically omniscient also believes that he has this property *essentially*—that 'being the greatest possible being' entails being *essentially* classically omniscient. And I would put the point made carelessly in the text more carefully this way: 'And neither will the greatest possible being be essentially omniscient in any sense of omniscience such that "being essentially omniscient" entails the property "possibly knows what the future acts of free agents will be", for essential omniscience in that sense will be an impossible property.'

This problem, of course, arises only in relation to the first definition of classical omniscience. It should be noted that on the second definition, classical omniscience may entail the property 'in every possible world in which there are free agents, has beliefs that cannot be mistaken about what their future acts will be'. (A property that I contend is an impossible property.) Whether it did would depend on how the ambiguity in the phrase 'being whose beliefs cannot be mistaken' [note 8] was resolved.

theological reasons for believing that God foreknows the future free acts of human beings that are reasons *all* Christians have for believing this.

Since the three great first-millennial creeds are silent on this matter, it would seem that any such theological reason must be scriptural. Does it say in the Bible (or can philosophical reflection on something said in the Bible demonstrate) that God knows the future in complete detail, and, in particular, knows what the future free choices of human beings will be? It might be argued that, on the contrary, there are passages in the Bible that imply that this thesis is false, for Scripture sometimes represents God as being sorry about what he has done and sometimes represents him as changing his mind about what he intends to do ('And the Lord was sorry that he had made man upon the earth', Gen. 6: 6; 'And the Lord repented of the evil which he thought to do to his people', Ex. 32: 14). And these things would seem to be possible only for a being who does not know the whole future in every detail. But I don't want to make anything of such passages. Many Christians would insist that, like 'they heard the sound of the Lord God walking in the garden in the cool of the day', they're not to be taken literally (that, in them, anthropomorphic language is used of God, perhaps as a concession to the limitations of human readers). And, even if one takes these passages literally, they imply at most that God does not always know what *his* free actions will be; it might still be that God always knows what the free actions of human beings will be (except insofar as those actions depend on his own actions). Such passages aside, I know of no place in Scripture in which God is represented as ignorant of any aspect of the future. And he is certainly represented as knowing a great deal about the future, including facts about what particular human beings—Pharaoh, Darius, Peter, Judas—are going to do on particular occasions. But it seems to be consistent with what the Bible says to suppose that God knows only those future events that are causally inevitable (for this reason if for no other: because he himself has already decreed that they shall occur). And it seems to be consistent with what the Bible says to suppose that some aspects of the future are not causally inevitable and that God does not know about them. God knew what Pharaoh would do because he had hardened Pharaoh's heart, and thus had made it impossible for Pharaoh to play any role in the Exodus story but the role that God had decreed for him. And perhaps something similar was true in the cases of Peter and Judas (or perhaps God knew that certain features of their 'hearts' made the denial and betrayal of Jesus causally inevitable in the situations in which he had ordained that Peter and Judas should find themselves). If something along these lines is true, and if causal inevitability is incompatible with free will, it is consistent with Scripture to suppose that God knows what human beings will do only in those cases in which they do not have free will, only

in respect of those occasions on which they are unable to act otherwise than they do.

But what of those passages in Scripture that seem flatly to imply that human beings do not *have* free will—not at all, not on any occasion? (Rom. 9: 14–24, for example, the passage in which Paul, echoing Jeremiah, compares God to the potter and human beings to the clay, and tells us that some human beings are vessels created for destruction.) Well, I can say only that if such passages imply that human beings perform no free actions, they do not imply that God foreknows the free actions of human beings. If human beings do not have free will, there is no problem of free will and divine foreknowledge (or at most, it is a problem about whether free will *would be* compatible with divine foreknowledge if there *were* such a thing as free will, and that is not a very urgent problem). The question I am considering now is the question whether, *given* that human beings have free will, there is any passage in Scripture that clearly implies that God knows how they will exercise their free will in the future. I can say only that I know of no passage that should convince a reader of Scripture that God does know such things.

Now one final problem, a rather serious one, for the position I have been defending. If one believes that human beings have free will and that God does not know how human beings will act when they act freely, does this not imply that God was not in a position to make the promises that (Christians believe) God has in fact made? The Bible, for example, a record of two (or perhaps three) covenants God has made with human beings, indisputably predicts that *some* human beings will be saved (and, in fact, a rather large number of them, even if it is small in comparison with the total number of human beings). But if human beings have free will, and if—as Christians who believe in free will want to maintain—any human being can freely refuse God's offer of salvation, there must be (given that free will is incompatible with strict causal inevitability; but this is a thesis that anyone who believes that God cannot foreknow the future free acts of human beings must accept, for God certainly knows everything about the future that is now causally inevitable) a non-zero probability that the present state of things will evolve into a state in which *no one* is saved (or only one person, or only two persons …). For if an event is causally possible, given the present state of things, there is now a non-zero probability that it will occur. But if such a non-zero probability exists, how can God be in a position to promise that *many* human beings will be saved?

Professor Geach, in an attempt to defuse this problem,[12] has used the following analogy. God is, in relation to us, like a great chess master

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[12] P. T. Geach, *Providence and Evil* (Cambridge: Cambridge University Press, 1977), p. 58.

playing a match with a beginner. The master, perhaps, does not know what particular moves the beginner will choose to make, but the master knows that he will win *whatever* moves the beginner makes, and is thus in a position to promise to win. But it's not at all clear that an appeal to this analogy does defuse the problem. Suppose that Alice is a great chess master and that she and Bertram, a rank beginner, are playing chess. It seems impossible to deny that there *is* a non-zero probability that Bertram beat her. For suppose that Bertram has decided to choose his moves at random, perhaps by tossing a coin according to some system that codes each possible move as a sequence of heads and tails. (Such a policy can hardly be expected to improve the play of even the rankest amateur.) Now suppose that it's possible to outplay Alice. Suppose, that is, that Alice is not a perfect player, that her play is not guaranteed to consist entirely of optimal moves.[13] It

[13] In every position in which a chess player can find himself, there is a non-empty set of optimal moves he can make—in the sense that no possible move is superior to any of the moves in that set. Define a perfect player as a player who will make some optimal move in every situation. It can be shown that a perfect player will always defeat a player who is not perfect—who makes even one non-optimal move. If Alice is a perfect player (since the number of possible combinations of pieces on a chess board is finite, a perfect player need not be an infinite being), it is difficult to say whether there is any chance that Bertram will defeat her, for even if his coin tosses always yield optimal moves, it is not known what would happen if two perfect players played each other. What is known is this—and even this is known only relative to a suitable definition of 'the game ends in a draw', a point I will not go into. Define a perfect game as a game between two perfect players. The following disjunction has been proved:

Either

> In every perfect game, the player who moves first wins

or

> In every perfect game, the player who moves second wins

or

> Every perfect game ends in a draw.

(Since the three disjuncts are incompatible, only one of them is true, but it is not known which. Many chess players are convinced on 'empirical' grounds that the second disjunct is false.) This very result, however, shows that it was 'fair' for us to assume that Alice, the great chess master, was not a perfect player—and thus that there was a non-zero probability that Bertram would defeat her. It obviously follows from the disjunction (and the fact that a perfect player never loses to a non-perfect player) that no perfect player has ever lost both a game in which he moved first and a game in which he moved second. But all human chess masters have lost both games in which they moved first and games in which they moved second. (If anyone protests that God, if he played chess, *would* be a perfect player, I must point out that Geach's analogy is only an analogy and cannot be pressed too far. If we think of God as playing a game with a perverse humanity, a game that God will 'win' if a certain number of human beings are saved, we have no reason to suppose that in that game, like chess, a perfect player must always defeat a non-perfect player. And, of course, we have no reason to suppose that there isn't a non-zero probability that perverse humanity will always make the 'move' that is optimal with respect to ensuring God's 'defeat'.)

follows that there is a non-zero probability that Bertram *will* outplay Alice and win the game—since there is a non-zero probability that all his moves will be optimal (and a non-zero—in fact very high—probability that Alice will make some non-optimal moves). Of course, the probability of Alice's losing is so small that no one would blame her for promising to win the match even she had conceded that there was a minuscule probability that she might lose. And nothing in our argument shows that the probability of some set of human beings of the requisite size being saved isn't of the same order as (or vastly lower than) the probability of Bertram's beating Alice. But must a morally perfect being like God not be held to a higher standard than a human chess master? Could a morally perfect being *promise* that an event *x* would happen if that being knew that the probability that *x* would not happen was very small but not 0—that it was, say, 0.0000000000013? I'm not entirely happy about this, but it seems to me that I am going to have answer 'Yes' if, as I do, I accept the following five propositions:

God does not foreknow the free acts of human beings;

God knows everything about the future that is causally determined (*sc.* by the laws of nature and the present state of things);

If it is causally undetermined whether an agent will do *x* or *y*, there is a non-zero probability that the agent will do *x* and a non-zero probability that the agent will do *y*;

Each human being is able freely to reject God's offer of salvation;

God has promised that some human beings will be saved.