Religious Studies

Divine Foreknowledge and Human Free Will

Linda Zagzebski

LINDA ZAGZEBSKI

Loyola Marymount University

DIVINE FOREKNOWLEDGE AND HUMAN FREE WILL[1]

I. THE PROBLEM OF RECONCILING FOREKNOWLEDGE AND FREEDOM

If God knows everything he must know the future, and if he knows the future he must know the future acts of his creatures. But then his creatures must act as he knows they will act. How then can they be free? This dilemma has a long history in Christian philosophy and is now as hotly disputed as ever. The medieval scholastics were virtually unanimous in claiming both that God is omniscient and that humans have free will, though they disagreed in their accounts of how the two are compatible. With the Reformation the debate became even more lively since there were Protestant philosophers who denied both claims, and many philosophers ever since have either thought it impossible to reconcile them or have thought it possible only because they weaken one or the other.

In this paper I wish to argue for the consistency of the two claims:

(1) God is essentially omniscient

and

(2) Human beings have free will.

I am taking each of these claims in the strongest possible sense. That is, I take it to follow from (1) that God knows all true propositions and believes no false ones. I assume that propositions are omnitemporally true or false, an advantage to logic and the theory of truth, and I assume that propositions can be expressed by tensed sentences, some of which are in the future tense. So one and the same proposition can be variously expressed by future tensed, present tensed, or past tensed sentences, depending upon the temporal relations between the knower and the event which the proposition is about. It follows from (1) that God knows all true propositions expressed by sentences in the future tense and since he is *essentially* omniscient, he knows

them at all times in all possible worlds.[1] In addition, I am taking (2) in the strong sense sometimes referred to as 'incompatibilist free will', or the sense of free will which is incompatible with determinism. That is, there are times when person A does x at time t_2, and it would be correct to say that given the entire causal history of x and the world's causal laws, A could nevertheless have refrained from doing x at t_2.

If we give (1) and (2) these strong interpretations, it follows that even if God knows at t_1 that A will do x at t_2, A nevertheless can refrain from doing x at t_2. I will attempt an explanation of foreknowledge which removes conceptual difficulties in this assertion. An argument for the truth of (1) and (2) in addition to their consistency would, of course, have to be much more elaborate and is beyond the scope of this paper.

II. SOME UNACCEPTABLE SOLUTIONS

There are several attempted solutions to the problem of reconciling Divine foreknowledge with human free will which are unacceptable given the interpretation of (1) and (2) just offered. These are ones which weaken one or the other of the two claims. The one set of solutions weakens the notion of human free will. St Augustine's solution in *On Free Will* and *The City of God* is of this type. He says that even though God's foreknowledge means that a person's will to sin must come to pass, he nevertheless does so voluntarily, and hence freely, since 'who but a raving fool would say that it is not voluntarily that we will?'.[2] His argument seems to involve an account of what it is to will. To will just *is* to act voluntarily and this in turn means to have it within our power. He thinks this is so because our wills can be contrasted with things which are obviously not in our power such as growing old. So for Augustine any act of will by definition is a voluntary act and a free act. But this does not preclude the necessity claimed by the determinist:

For if that is to be called *our necessity* which is not in our power, but even though we be unwilling effects what it can effect – as, for instance, the necessity of death – it is manifest that our wills by which we live uprightly or wickedly are not under such a necessity; for we do many things which, if we were not willing, we should certainly not do. This is primarily true of the act of willing itself – for if we will, it *is*; if we will not, it *is* not – for we should not will if we were unwilling. But if we define necessity to be that according to which we say that it is necessary that anything be of such a nature, or be done in such and such a manner, I know not why we should have any dread of that necessity taking away the freedom of our will.[3]

[1] Actually it is not crucial to my analysis to accept the omnitemporality of truth. There does not have to be a tenseless proposition true at all times corresponding to every fact. All that is necessary is to accept that if (1) is true, then God knows the truth of future contingents, whether these are properly expressed in a tensed or a tenseless form.

[2] St Augustine, *On Free Will*, trans. by John H. Burleigh in *Augustine: Earlier Writings*, The Library of Christian Classics, VI (Philadelphia, 1953), 175.

[3] St Augustine, *The City of God*, bk. V, ch. X, trans. by J. J. Smith, *Basic Writings of St Augustine*, II (New York, 1948), 68.

The same approach can be found in recent philosophy. Anthony Kenny argues in his book *The God of the Philosophers* that Divine foreknowledge is incompatible with indeterministic free will and he favours a deterministic notion of freedom.[1] He makes this move largely because of his objections to Plantinga which I will discuss in section VIII. Many other philosophers, of course, have taken this approach for other reasons. However, I wish to consider a version of (2) which denies any form of determinism.

A second set of solutions which would be unacceptable on the strong interpretations of (1) and (2) are those which weaken the notion of Divine omniscience. They do this either by (a) denying that future contingent propositions have a truth value, or by (b) claiming that while future contingent propositions may be true, they are none the less unknowable. The former either deny the law of excluded middle, which has led to multi-valued logics, or they deny the omnitemporality of truth, which has led to tense logics. A good example of someone in the recent literature who denies that future contingent propositions have a truth value is Joseph Runzo in his interesting paper, 'Omniscience and Freedom for Evil'.[2] I will discuss some of the points in his paper in sections V and VIII. The claim that while future contingent propositions may be true, they are nevertheless unknowable, was argued by Swinburne in *The Coherence of Theism*.[3] His reasons will be discussed in section VII.

It should be apparent that this set of solutions not only greatly restricts the range of Divine omniscience, but also complicates logic. The fact that a view complicates logic is, of course, not a refutation of it, but it does suggest that the resort to such difficulties is something which should be done only when one is forced into it by some philosophical problem. Certainly, those who have appealed to such exotic logics have done so because they do feel forced into it by problems such as the one addressed in this paper, but if it could be shown that the problem of Divine foreknowledge can be resolved without giving up the law of excluded middle or the omnitemporality of truth, that would be a definite advantage. The matter of weakening Divine omniscience may be more serious. The notion of omniscience that Runzo uses, for example, is not unreasonable and it would not be fair to call it a weakening of omniscience if the future is truly unknowable, but he makes it clear that he believes we are forced into it by considerations on the logic of knowledge. If we can make sense of knowledge and contingency without weakening the notion of omniscience, as I hope to show, so much the better.

[1] Anthony Kenny, *The God of the Philosophers* (Oxford: Clarendon Press, 1979). He seemed to express more hope for reconciling the two in his earlier article, 'Divine Foreknowledge and Human Free Will' in Baruch Brody, ed., *Readings in the Philosophy of Religion* (New Jersey: Prentice-Hall, 1974), pp. 403–13.

[2] Joseph Runzo, 'Omniscience and Freedom for Evil', *International Journal for the Philosophy of Religion* XII (1981), 131–47.

[3] Richard Swinburne, *The Coherence of Theism* (Oxford: Clarendon Press, 1977).

III AQUINAS' SOLUTION

There is one classic solution to the problem of reconciling Divine foreknowledge with human free will which does not weaken either (1) or (2), but which is not the one I wish to pursue in this paper. That is the solution of St Thomas Aquinas. Aquinas, following Boethius,[1] argues that God's knowledge is timeless, not in the sense of being omnitemporal, but in the sense of being outside time.

> Things reduced to actuality in time are known by us successively in time, but by God they are known in eternity, which is above time. Whence to us they cannot be certain, since we know future contingent things only as contingent futures; but they are certain to God alone, Whose understanding is in eternity above time. Just as he who goes along the road does not see those who come after him; whereas he who sees the whole road from a height sees at once all those travelling on it.[2]

To put Aquinas in the modern idiom, not only is the assertion that God knows p, where p is future-tensed, ill-formed, it is never correct to speak of God's knowing p *at* a time t. That is, not only is the proposition God knows not expressible by a tensed sentence, but his act of knowing cannot be related to a moment of time either. So since God's knowledge is not only outside the chain of causes leading up to an act, but is outside the temporal chain altogether, there is no worry that God's knowledge prevents the contingency of the act.

This solution deserves a thorough inspection, but I suspect that it ultimately will not work.[3] One reason is that even if God's act of knowing is timeless and the object of his knowledge is not properly expressible by a future-tensed sentence, we can nevertheless ask if the proposition expressed by 'God timelessly knows p' is omnitemporally true. If it is, as we would expect, then it was, of course, true prior to the event described by p and the problem of Divine foreknowledge is generated again. If that proposition is not omnitemporally true, it could not be for the reasons Aquinas has given.[4]

Secondly, even if this solution did solve the logical problem of Divine foreknowledge it still may not be the most desirable. Many people, including Anthony Kenny and A. N. Prior, doubt the coherence of the concept of timeless knowledge. Kenny repeats Prior's oft-quoted objection that 'it seems an extraordinary way of affirming God's omniscience if a person, when asked what God knows *now*, must say "nothing", and when asked what he knew *yesterday*, must again say "nothing", and must yet again say "nothing", when

---

[1] Boethius' solution can be found in *The Consolation of Philosophy*, part v.

[2] St Thomas Aquinas, *Summa Theologica*, part I, translated by a Dominican Father of the English Province, reprinted in Brody, *op. cit.* p. 392.

[3] A recent attempt to defend the timelessness position can be found in William Hasker's article 'Concerning the Intelligibility of "God is Timeless"' *The New Scholasticism* LVII, 2 (Spring 1983), 170–95.

[4] I am grateful to Alvin Plantinga for pointing out to me this difficulty with the Aquinas solution.

asked what God will know *tomorrow*'.[1] For those who share misgivings on this approach a solution which understands God's foreknowledge in a way which is closer to the ordinary conception would be preferable. Nelson Pike and Anthony Kenny claim that the doctrine of the timelessness of God's knowledge is inessential to Christian theology anyway.[2] In fact, a strong case can be made for the opposite view, since Christians want to say that God interacts with human history and so must have known certain things at those times. In any case, the timelessness solution is generally offered only when the other solutions are perceived to fail.[3] My purpose in this paper is not to attack such a solution but to argue that it is not necessary since there is no incoherence in claiming God knows at each moment of time all events which will follow it in time, even when some of those events are free human acts.

IV. SOME PSEUDO-PROBLEMS

Some philosophers have thought that the simple omnitemporal truth of a proposition or the truth of a future-tensed proposition is sufficient to preclude free will. This seems to have been a widely held belief in antiquity. There are indications of it in Aristotle's sea-battle argument where on one common interpretation of that argument he is asserting p or not p (law of excluded middle) for contingent future-tensed propositions while denying the truth of either of the disjuncts taken individually (principle of bi-valence). The Stoics associated their determinism with the truth value of future-tensed assertions, while Epicurus thought that in order to maintain the doctrine of free will he had to deny the truth value of such propositions.[4] In this century J. Lukasiewicz conceived the idea of a three-valued system of logic to handle future contingents since he thought the truth of future-tensed propositions would entail determinism.[5]

This position seems to me to be a mistake. The truth or falsity of a proposition p is a semantical property of p distinct from the necessity or contingency of p. It is not an event or state of affairs and has no causal effect on the world. Furthermore, if we take a correspondence theory of truth, the truth of a proposition is explained by the fact that the state of affairs it

---

[1] Anthony Kenny in Brody, *op. cit.* p. 409. William Hasker attempts an answer to Prior (*ibid.*), but it is open to Plantinga's objection.

[2] Nelson Pike, *God and Timelessness* (London: Routledge and Kegan Paul, 1970) and Kenny, *ibid.* For the same point see also Stephen T. Davis, *Logic and the Nature of God* (Grand Rapids: Eerdmans, 1983), chap. 1, and Nicholas Woltersdorff, 'God Everlasting', in *God and the Good*, ed. Clifton J. Orlebeke and Lewis B. Smides (Grand Rapids: Eerdmans, 1975).

[3] This seems to be the case not only for Aquinas, but also for certain contemporary supporters of this view such as Richard Purtill in 'Foreknowledge and Fatalism', *Religious Studies* x (1974), 319.

[4] See William and Mary Kneale, *The Development of Logic* (Oxford: Clarendon Press, 1962), p. 48 for a brief discussion of these points.

[5] See Kneale, pp. 569–70 for a discussion of the view of Lukasiewicz.

describes takes place, not the other way around. Some propositions are also necessarily true, meaning they are true in all possible worlds. Some false propositions are also necessarily false, meaning they are false in all possible worlds. Contingency and non-contingency are properties which can be ascribed either to propositions or to events/states of affairs. A proposition is non-contingent if and only if it is either necessarily true or necessarily false. A proposition is contingent if and only if it is neither necessarily true nor necessarily false.

The contingency or non-contingency of events is more complicated. One approach would be simply to say that an event or state of affairs which corresponds to a contingent proposition is contingent, while one which corresponds to a non-contingent proposition is non-contingent. Let us call this the notion of logical contingency.[1] However, we need another, much more rigorous notion of contingency for the free will advocate. Suppose we wish to say that the event of Jane's marriage to Harry at t_n is a contingent event in the sense that both of them could have refrained from marrying under the circumstances. We certainly do not wish to assert merely that Jane and Harry's marriage is neither logically necessary nor logically impossible. Though true, such a claim is trivial and irrelevant to the question of free will. For the advocate of free will, a much stronger notion of contingency is required. To say that the marriage is a contingent event is to say that the marriage is neither logically nor causally necessitated by the events making up the causal history of the marriage at t_n. It is common to conclude from this that none of the events in the temporal history of the world at t_n is sufficient to necessitate the marriage at t_n. In other words, there is some possible world with a temporal history identical to that of the actual world at t_n in which Jane does not marry Harry at t_n. Let us call this the notion of causal contingency. We will need to amend this notion later, but this account should be adequate to show the distinction between truth and contingency.

The omnitemporal truth of the proposition that Jane marries Harry at t_n is no problem if, as stated above, truth is not an event, does not enter causally into the world, and does not thereby prevent the contingency of events.

Necessity, therefore, should not be confused with truth. Furthermore, it should not be confused with certainty. Certainty is a psychological state of the knower, whereas necessity is a property of a proposition. Necessary truths are often more certain than contingent truths, but this need not be the case. Descartes has convinced readers for over 300 years that 'I think' and 'I exist' are among the most certain of all the propositions I know, though they are by no means necessary since I do not exist in all possible worlds. On the other hand, there are undoubtedly theorems of mathematics which have not yet

---

[1] See Bradley and Swartz, *Possible Worlds: An Introduction to Logic and Its Philosophy* (Hackett, 1979) for a good explanation of these concepts.

been proven and about which no one is yet certain, but which are necessarily true.

If necessity should not be confused with truth or certainty, it also should not be confused with inalterability or the related notion of accidental necessity which comes from Ockham.[1] There is a sense in which the entire past is inalterable. Given that certain events have already occurred, I cannot now make it happen that those events did not occur.[2] I cannot go back in time and make something that did happen not happen. Some, such as Kenny and Prior, would also say that the future is inalterable in the same sense. I cannot go into the future and make something that will happen not happen. This is because they like to think of the future as what *will* come to be after we've made all our choices, just as the past is what *has* come to be after we made all our choices.[3] With this interpretation inalterability becomes a vacuous notion since all events, past, present, and future would be inalterable, but whether or not inalterability is broadened in this way, it is still distinct from the notion of necessity as contrasted with contingency. The contingency of an act is a property of that act. It does not lose that property after it is performed. This is because contingency has been defined in terms of the relations between an event and other events or states of affairs occurring previous to it. This relation always remains the same. Hence, it does not make sense to say it is now contingent that I will type my paper tomorrow, but the day after I do it, the act becomes necessary.

V. THE REAL PROBLEM

Truth is not an event and does not enter causally into the world. Knowing, however, is an event, and I have been assuming that God's knowing is an event which occurs at moments of time in the actual world.[4] Now by the criteria for causal contingency given above, to say that Jane can refrain from marrying Harry at t_n is to say that there is a world with a past exactly like the actual world up to t_{n-1} in which Jane does not marry Harry at t_n. But one of the events in the actual world up to t_{n-1} is the event of God's knowing that Jane will marry Harry at t_n and this is incompatible with Jane's refraining from marrying Harry at t_n since on all accounts of the meaning of 'knows', the proposition that a knows p entails p. So there is no world *exactly*

---

[1] Ockham's idea of accidental necessity is the necessity which attaches to the past simply in virtue of its being past. A good discussion of the notion is contained in Alfred J. Freddoso's article, 'Accidental Necessity and Logical Determinism', *Journal of Philosophy* LXXX, 5 (May 1983), 257–78.

[2] Jonathan Edwards is an example of a philosopher who confuses necessity and inalterability. See *Freedom of the Will* (1754), section 12, reprinted in Brody, p. 393.

[3] Anthony Kenny in Brody, *op. cit.* p. 411.

[4] By saying that God's knowing is an event that occurs at moments of time, in fact all moments of time, I do not mean to preclude the possibility that in addition, God's knowing may occur in a sense which goes beyond time. I am sympathetic with St Anselm's account in the *Monologium*, chap. XXII, of the sense in which God can exist both within time at every moment as well as outside time.

like the actual world up to t_{n-1} in which Jane does not marry Harry at t_n. Hence, it looks as if the marriage is not causally contingent and Jane and Harry are not really free not to marry after all. This is basically the argument presented by Nelson Pike in his argument against Alvin Plantinga and referred to by Joseph Runzo as an effective rebuttal to the compatibility of (1) and (2).[1]

Not only do I find this argument inconclusive against the compatibility of (1) and (2), but I believe it shows a misunderstanding of the meaning of the subjunctive assertion:

(3) Jane could have refrained from marrying Harry at t_n,

upon which the claim of incompatibilist free will rests.

Consider the proposition expressed by the sentence:

(4) Jane marries Harry at t_n.

Let us call the actual world α. If God's knowing (4) is a fact about α before t_n, then the marriage occurs at t_n. But this is no problem because what we mean to imply by (3) is that *if* Jane were to decide not to marry Harry at t_n, then it *would have been the case that* God did know (4) before t_n. He would have known the negation of (4) instead. But this is only to say that the actual world would have been a different possible world than this one. When we assert a subjunctive statement of the form of (3), we are in effect asserting what would be the case if a different possible world had been actual instead of this one. In describing such a world we are entitled, in fact, required to make the minimal changes in the description of that world compatible with the change from (4) to (not-4). If we assume the existence of an essentially omniscient God, then if (4) God knows (4), and if (not-4) God knows (not-4). To look for a world exactly like this one with the sole exception that the truth of the proposition (4) is changed from true to false is to look for a logically impossible world. It is unreasonable to include God's foreknowledge of which of all possible worlds will be the actual one as part of the description of the past of this world and then to ask if an alternative possible world is compatible with *that*. This is to ask if there is a possible world β in which God knows the actual world is α, and of course the answer is no. So the mere fact that God knows (4) before the event described by (4) occurs should not by itself prevent that event from being contingent.

Yet God's knowledge of (4) before t_n does preclude the causal contingency of (4) on the criterion of causal contingency given on p. 284. It is not true that there is a possible world exactly like the actual world up to t_{n-1} where Jane and Harry do not marry at t_n. In the next section I will suggest a change in the definition of causal contingency which I think is reasonable given the intuitions I have just discussed on the meaning of the subjunctive assertion (3).

[1] Runzo, *ibid.* p. 143; Nelson Pike, 'Divine Foreknowledge, Human Freedom and Possible Worlds', *Philosophical Review* LXXXVI, 2 (April 1977), 216.

VI. THE LOGICAL AND CAUSAL CONTINGENCY OF PROPOSITIONS ABOUT FUTURE HUMAN CHOICES

The free will advocate needs to establish that any proposition describing a future free human act such as (4) is both logically and causally contingent. Let us first consider the argument that it is logically contingent.

> Let Ox: x is an omniscient being
> g: God
> Kxp: x knows p

It is a necessary truth that:

(x) $(Ox \supset (Kxp \equiv p))$.

That is, there is no possible world in which an omniscient being x exists and either Kxp and not-p or not-Kxp and p. If we assume that God exists in all possible worlds and is omniscient in all possible worlds, then we get

$\square \, (Kgp \equiv p)$.

So the propositions Kgp and p are logically equivalent. But this does not show that the fact that God knows p makes the event described by p logically necessitated. There is a difference between the proposition

(5) $\square \, (Kgp \supset p)$

and the proposition

(6) $Kgp \supset \square p$.

(5) is true and is required by the logic of knowledge. It shows a logically necessary connection between God's knowledge of p and the truth of p. (5) is perfectly harmless and is simply a special case of the logical truth

$\square \, [(\exists x) Kxp \supset p]$.

(6) is needed for the denial of logical contingency, but is false. If God knows p, it does not follow that p is a necessary truth. Applying this analysis to the proposition (4), it turns out that there is an ambiguity in the sentence:

(7) Jane could have refrained from marrying Harry at t_n even though God knew she would.

The ambiguity stems from an ambiguity in the scope of the modal operator 'could have'. We do *not* mean:

(7′) It could have been the case that: Jane does not marry Harry at t_n and God knows she does marry Harry at t_n.

This is logically contradictory. We do mean:

(7″) It could have been the case that Jane does not marry Harry at t_n; and furthermore, God does in fact know that she will marry Harry.

This could be true. Interpreted in terms of possible worlds, (7′) says that there is a possible world in which Jane does not marry Harry at t_n and yet God knows that she does in that world. There is obviously no such world. (7″) says that there is a possible world in which Jane does not marry Harry at t_n, and yet God knows that she does in the actual world. This seems quite plausible and is harmless.

The distinction in the scope of the modal operator expressed in (5) and (6) was understood by Aquinas and was used by him as a suggested solution to the problem of Divine foreknowledge.[1] However, he was prevented from using it as his ultimate solution because he decided that Kgp is a necessary truth.[2] Unfortunately, this produces the problem all over again since from (5) and $\square\ Kgp$ it follows that $\square\ p$. This led Aquinas to the solution mentioned in section III which is simply to deny the truth of Kgp where either K or p is tensed on the grounds that in such a case Kgp is ill formed.

It follows from this analysis that in order to maintain the position that any true proposition describing the occurrence of a future free act is logically contingent, we must also maintain that the proposition Kgp is itself a logically contingent truth. This is what we would expect, given the possible worlds analysis we have already discussed. The proposition Kgp is not true in all possible worlds, nor is p true in all possible worlds. Hence, both p and Kgp are logically contingent.

Next let us look at the argument that p is causally contingent; that is, the event described by p is not causally necessitated by any event or set of events, including God's knowledge that p. One way to make this seem plausible is to argue, as Alvin Plantinga does, that the contingency of Kgp is dependent upon the contingency of p, not the other way around. So if Jones performs a free act at t_2 it was within his power at that time to do something else such that if he had done it God would have had a different belief at t_1. To say this is to deny what John Martin Fischer calls the Fixed Past Constraint:

> (FPC). A person never has it in her power at t so to act that the past (relative to t) would have been different from what it actually was.[3]

In the rest of this section I will defend the reasonableness of denying (FPC).

First of all, it is important to see that the denial of FPC involves no logical incoherence. The denial of FPC neither entails that there is temporally backwards causation nor that one can alter the past. To say that a person has it in her power to do something such that had she done it the past would have been different from what it was is not to make the stronger claim made by Plantinga that she has the power to do something that would have *brought it about that* the past was different from what it was.[4] The stronger claim might also be true and its coherence will be discussed in the next section. However, a denial of FPC does not entail it and my analysis does not rest on an acceptance of the stronger claim. The denial of FPC involves a claim of temporally backwards contingency, but such contingency need not be causal.

---

[1] Aquinas in Brody, p. 392.

[2] Aquinas, *ibid.* p. 391. It is interesting to note that Ockham believed that the proposition that God knows p (future) is contingent, *Philosophical Writings*, ed. and trans. by Philotheus Boehner, O.F.M. (London: Nelson 1967), pp. 134–5.

[3] John Martin Fischer, 'Freedom and Foreknowledge', *Philosophical Review* XCII; 1 (January 1983), 67–79.

[4] Alvin Plantinga, *God, Freedom, and Evil* (New York: Harper & Row, 1974), p. 71.

Still less does the denial of FPC entail that the past can be altered. Once an event occurs it is fixed. It cannot be changed. But that does not mean that a full explanation of the occurrence of the event might not refer to something in its future.

The denial of FPC, however, is not sufficient to show causal contingency in the sense needed for free will. It is not enough that there be *some* possible world in which Jones does something at t_2 which is such that God's belief that not-p at t_1 in that world is contingent on it. If we use the definition of causal contingency on p.284 at least one of the worlds of that description must be exactly like the actual world up to just before t_2. The reason for this is that we want the two worlds to have the same causal history.[1] If all such worlds have been eliminated by the events up to t_2, then Jones really does not make a free choice at t_2. But all such worlds have been eliminated if we use the definition on p.284 since one of the events up to t_2 is God's knowing that p, and that is incompatible with not-p. The definition of causal contingency will have to be modified and we can see that it is reasonable to do so since the motivation for maintaining that the temporal history of the two worlds must be exactly the same up to just before t_2 is simply that we want their causal history to be identical. But identity of temporal history is not necessary for identity of the causal history relevant to some event. Also, since in the next section we will want to leave open the question of whether there is temporally backwards causation, we must allow for the possibility that temporal identity up to t_2 is not sufficient for causal identity either.

The definition of causal contingency should therefore be modified in the following way: At least one possible world in which Jones does something at t_2 upon which God's belief that not-p at t_1 is contingent have exactly the same causal history as the actual world has at t_2. The only difference between the two worlds are that (1) p is true in the actual world and false in that world, and (2) that world must be a logically consistent world. Of course, possible worlds are by definition logically consistent, so clause (2) merely calls attention to the fact that the change in the truth value of a proposition p from true in the actual world to false in some other world will entail a change in the truth value of an infinite number of other propositions as well. As long as the changes necessary to maintain logical consistency do not affect the exact identity of the causal history of the two worlds or their causal laws, we can still say that the proposition p in question is contingent. These intuitions can be used to define the notion of maximal similarity:

> Two possible worlds, w and w', are maximally similar relative to p if and only if they share the same causal history relative to p.

We can now define causal contingency as was promised in section v:

> A proposition p true in a world w is causally contingent in w if and only

---

[1] Nelson Pike seems to be calling for just such an analysis in 'Divine Foreknowledge, Human Freedom, and Possible Worlds', *ibid*. He thinks, though, that it is not possible.

if there is a possible world w' maximally similar to w relative to p in which p is false.

Now take the following three propositions which we will assume to be true in the actual world: (1) God is essentially omniscient; (8) God believes (4); (4) Jane marries Harry at t_n. To say that (4) is causally contingent on the new definition is to say that there is a possible world maximally similar to the actual world relative to (4) in which (4) is false. But if (4) is false, then either (1) or (8) must also be false by the requirement of logical consistency. Since (1) is true in all possible worlds, (8) is false and we have a coherent interpretation of causal contingency which denies FPC.

VII. A RED HERRING: BACKWARDS CAUSAL CONTINGENCY

In the previous section it was argued that there is nothing inconsistent in the assertion that God foreknows a causally contingent act, at least not by the definition of causal contingency given on p.289–90. I argued that this does not entail the stronger assertion that such an act can 'make it happen' that God foreknows it, at least there is no reason to think such an entailment holds until and unless we have a complete account of the nature of knowledge which shows the relation between the object of knowledge and the act of knowing to be fundamentally causal. I do want to say that an earlier event (God's knowledge) can be contingent on a later one (my act) in the following sense: In every possible world in which the later event occurs the earlier event occurs. The later event is sufficient for the earlier. (Of course, the earlier is likewise sufficient for the later.) I do not know if the contingency I have just described is causal contingency, though I suspect it isn't. I do want to say that my act is responsible for God's previous knowledge of it, that God would not have foreknown it if I had not done it. Though I do not think this entails backwards causation, let us look at the stronger causal assertion anyway to see what the objections might be.

Plantinga's assertion about the relation between my act and God's knowledge is the following:

(9) It was within Jones' power at t_2 to do something that would have *brought it about that* God did not hold the belief that he did hold at t_1.

In this section I would like to examine the grounds for thinking that (9) is incoherent.

Richard Swinburne argues that it is logically impossible to cause or in any broader sense 'bring about' the past. He says, 'We must understand here by a state of affairs x being a logically possible state of affairs after T that x be not merely logically possible and after T but also that x be a state of affairs logically compatible with all that has happened at and before T.'[1] Swinburne concludes from this that affecting the past is a logical impossibility. In

---

[1] Swinburne, p. 151.

particular, a person cannot bring about that God held a certain belief in the past. By her choice a person has it in her power at t_1 to make the beliefs held by P at t_1 true or false, but she does not have it in her power at t_2 to make it the case that P has a certain belief at t_1. This would be affecting the past and would be a logical impossibility.[1] He concludes that God does not know everything true, but everything true which it is logically possible to know by the above definition. Since he thinks it is not logically possible to know a future contingent by that definition, God does not know future contingents. Swinburne's point is ambiguous, however. He is right that it is logically impossible to do x after T if God knows before T that x will occur. It has already been pointed out that given that some particular set of events is the past it is logically impossible now to alter that past and make it happen that God did not know what he knew after all. But (9) is not a claim about altering the past. Since we do not always know what makes a particular event occur, why couldn't it be something in the future? Could it still be the case that the past wouldn't be the past that it is if some event didn't happen in the future? If such a thing is impossible, it could not be simply on the grounds of logical impossibility since a possible worlds account of what it is to say the past is contingent on the future was given on p.290. The further claim that the past is *causally* contingent on the future should not be rejected out of hand either until we get an analysis of causality which demonstrates that it is logically necessary that a cause be temporally prior to its effect. But Swinburne does not give such an analysis.

On the contrary, recent literature on the causal relation includes a number of philosophers interested in giving an account of causality which permits an effect to be temporally prior to its cause.[2] For example, Douglas Ehring in 'Causal Asymmetry' has presented a new account of causality which does not depend on an assumption of temporal priority of causes to effects.[3] It is important to note that in the case of Ehring and others interested in the general topic of causation the considerations which lead them to allow backwards causation are much broader than a concern with defending Divine foreknowledge. This at least shows that temporal order is not a closed issue and that foreknowledge is not the sole kind of case in which we might be led to say an effect can be prior to its cause.

Whenever we put together an argument that can go in more than one direction, there is always a problem in weighing the likelihood of alternative premises. To take a well-known example, we can argue that an all-good and all-powerful God would not permit evil; therefore, there is no such God. Or we can argue that since there is such a God, an all-good and all-powerful

[1] *Ibid.* p. 160.
[2] George Mavrodes does this in his paper, 'Is the Past Unpreventable?', *Faith and Philosophy*, 1, 2 (April 1984), 131–46. Others who take seriously the possibility of backwards causation include J. L. Mackie, 'The Direction of Causation', *Phil. Review* (1966), p. 441, and von Wright, *Explanation and Understanding* (Ithaca, N.Y.: Cornell University Press, 1971), pp. 69–81.
[3] Douglas Ehring, 'Causal Asymmetry', *Journal of Philosophy* LXXIX, 12 (Dec. 1982), 761–74.

God must have a reason to permit evil. The choice of which way to argue depends upon the level of prior certainty of the different premises. Analogously, we could argue either that because there is precognition of a free will act there must be backwards causation, or we could say that since there is no backwards causation there must be no precognition of contingent events. Since a full account of the nature of causation is still wanting, it is not fair to opt for the second approach without independent reasons for thinking that a premise that there is no backwards causation is more plausible than a premise that says precognition of free acts is possible.

In any case, as I have already said, it is not clear that my account is committed to saying that my act 'causes' God's prior knowledge of it anyway. It is only necessary to say that God's knowledge is contingent on my act. Section IX will begin a discussion of how this is to be interpreted.

VIII. ANOTHER RED HERRING: THE PROBLEM OF COUNTERFACTUALS

Assertion (9) brings up yet another problem. This is the analysis of subjunctive counterfactual conditionals. I hope to show next that (9) also survives the objection that it is committed to incoherent counterfactual claims.

The truth of (9) seems to entail the truth of the following counterfactual:
(10) if Jones had done x at t_2 (making p false), God would not have believed p at t_1.
Or because (10) is backwards-looking and we may want a version of the subjunctive conditional which is not time-relational, perhaps the following would be more perspicuous:
(10′) If it were the case that Jones does x at t_2, it would be the case that God would not believe p at t_1.
I do not see any problem in maintaining the truth of (10′) (and (10) also, given the necessary temporal qualifications). But (10) and (10′), unlike many other counterfactuals, are easy to analyse. They seem to be true because in all possible worlds in which the antecedent is true, the consequent is true. That is, in any world in which Jones does x at t_2, God does not believe p at t_1. This follows immediately from the fact that God is omniscient.

I would also expect that it follows from God's omniscience that God is able to comprehend a complete description of all possible worlds, not only the actual one. This means that for every possible event, God knows whether that event does or does not take place in any given possible world. This would mean that there are counterfactuals of another type which God would know such as:
(11) If world β had been actual, Saul would have besieged the city.
or
(12) If world μ had been actual, Saul would not have besieged the city.

My analysis is committed to the truth of counterfactual propositions of the form of (11) or (12), but this is because (11) and (12) are simply alternative ways of describing different possible worlds. (11) and (12) are equivalent to:

(11') In world β Saul besieges the city.

(12') In world μ Saul does not besiege the city.

and these are innocuous.

Some counterfactuals, though, are not innocuous. As Robert Adams has pointed out, a problem arises in the analysis of the following:[1]

(13) If David stayed in Keilah, Saul would besiege the city.

Adams argues, and I think rightly, that if such a counterfactual is true, at least on the Stalnaker account of counterfactuals, human beings do not have free will. This is because according to Stalnaker a counterfactual conditional is true in w just in case in the world which is most like w up to the time of the counterfactual event and in which the antecedent is true, the consequent is true. But of course this means that if (13) is true, Saul's siege would not be a causally contingent event and Saul would not be acting freely. The reason for this is that on the notion of contingency I have given, if Saul exercises free will when he does x at t in world $\propto$, we want to say there are two worlds maximally similar relative to x except that in one Saul does x at t and in the other Saul does y at t. Let us consider those worlds in which David stays in Keilah. If Saul exercises free will when he decides whether or not to besiege the city in those worlds, this is to say that in one world he does besiege the city and in another maximally similar world he does not. But this precludes (13) from having a truth value if subjunctive conditionals are analysed in Stalnaker's way.

Hence the believer in free will who also accepts Stalnaker's account of the truth conditions of counterfactuals would want to deny that propositions such as (13) are true. This is in fact what Plantinga does.[2]

None of this in any sense hinders God's foreknowledge. It is surprising, then, that Anthony Kenny bases his argument against Plantinga, whose account he calls the most sophisticated attempt to reconcile foreknowledge and indeterminism, on the impossibility of God's knowing counterfactuals such as (13).[3] The source of the confusion could be that Plantinga's views on God's knowledge about all possible worlds bear a striking resemblance to the doctrine of middle knowledge advanced by the later scholastic philosophers Suarez and Molina, a similarity noted earlier by Robert Adams. According to the notion of middle knowledge, God knows what every possible free creature would freely do in every situation in which that creature could possibly find herself. Molina thought that foreknowledge proceeded by way of counterfactuals, but Plantinga does not think this way, nor do I.

In short, to say that God is omniscient and knows all true propositions

---

[1] Robert Adams, 'Middle Knowledge and the Problem of Evil', *American Philosophical Quarterly* xiv, 109–17.

[2] Alvin Plantinga, *The Nature of Necessity* (Oxford, 1974), chap. ix.   [3] Kenny, p. 67.

including those about the future is not to commit us to saying God knows propositions like (13). If some propositions in counterfactual form are true, God would of course, know them. I have already said (10′) is one such proposition. If God's omniscience includes knowing a complete description of every possible world (a reasonable modern version of middle knowledge) God would also know propositions like (11) and (12). Again I have no objections. If other kinds of counterfactual propositions are true, God would know those also, but a list of them awaits a satisfactory account of counterfactuals and this is independent of the subject for this paper. So just as the objection to backwards causation is a red herring, so is the objection to Plantinga's account of counterfactuals. In neither case is (9) committed to objectionable claims.

I have said that God knows a complete description of all possible worlds and knows which of these is the actual world. But this is not to say that God chose a particular possible world to create. Such a view, I believe, is incompatible with the contingency of events. The reason is as follows: At any given moment of time there is an infinite number of possible worlds compatible with everything that has occurred up to that moment. It is human free choices which determine that the actual world is, say α, rather than β or μ. This means that God must not choose to create an entire world α, but chooses only to create a portion of a world – certain physical and non-physical substances and laws setting things in motion, as well as perhaps some plans of a very general nature such as a plan of Redemption, but all of this is still compatible with an infinite number of possible worlds, and it is up to the inhabitants of the created world-fragment to bring about one world rather than another. This view of the creation has been expressed by both Alvin Plantinga and Joe Runzo, though they disagree on the foreknowledge issue. Runzo expresses well, I think, what it is that God creates:

What God would instantiate at T_0 (the moment of creation) is not a complete possible world, but a set of entities – e.g. causal laws, material states of affairs, dispositional properties, etc. – such that after T_0 only a restricted subset of the set of all logically possible worlds becomes the set of all logically possible worlds which could be the actual world...While the number of logically possible worlds which could turn out to be actual continuously decreases as time passes [though the number is still infinite I think], at any specific moment, T_n, there is a set of such possible worlds which possess precisely the same description as the actual world has up until T_n. And it is these many possible futures for the actual world which make possible human freedom for good, or for evil.[1]

IX. GOD'S FOREKNOWLEDGE AND THE THEORY OF EXPLANATION

So far I have tried to show that God's foreknowledge of an event does not prevent either its logical or its causal contingency. I also argued that there

[1] Runzo, p. 145.

is nothing incoherent about backwards contingency or the idea that an event is contingent upon an event occurring after it in time, which may or may not be the same as backwards causality, and I have argued that even if God knows what a person freely does in every possible world, this is not the same as knowing a problematic counterfactual such as (13). Problems in the assignment of a truth value to (13), then, pose no problems for my account. My arguments have been primarily negative since I have intended only to show that the attempt to reconcile (1) and (2) will not get us into trouble as some philosophers have thought. In this section I would like to begin a sketch of my positive account, arguing that a person's free choice can explain God's previous foreknowledge of it in a way in which God's fore-knowledge does not explain a person's free choice. So even though God's foreknowledge of p is contingent on p just as much as p is contingent on God's foreknowledge of p, the order of explanation is asymmetrical.

On the account I have given, my act $\varnothing$ is both necessary and sufficient for God's previous foreknowledge that I would do $\varnothing$. This is because if I had not done $\varnothing$ now, God would not have known that I would do $\varnothing$ before, and if God had not known that I would do $\varnothing$ before, I would not have done $\varnothing$ now. Another way to put this is to say that my act and God's foreknowledge of it are equivalent events. They occur in exactly the same possible worlds.

A plausible possible worlds account of causation goes as follows: To say A causes B in w_1 is to say that in every world with the same physical laws as w_1 and where A occurs, B occurs. This is the same as saying A is a causally sufficient condition for B. Now, whenever A is a causally sufficient condition for B, B is a causally necessary condition for A. But this does not express the fact that the causal relationship (and the relationship of contingency between events in general) is not symmetrical.

To show that the concept of causally necessary and sufficient conditions and the possible worlds account in general does not express the asymmetry of causality, consider the following case: Suppose that A is the cause of B. On the account of causality just given this is to say that A is causally sufficient for B and B is causally necessary for A. Suppose further that A is the only thing that *could* cause B. A would not only be sufficient for B, it would also be necessary. But by the same token, if A is necessary for B, B is sufficient for A. Thus, A is both necessary and sufficient for B and B is both necessary and sufficient for A and the relationship looks symmetrical. There is no way to tell which is cause and which is effect. Of course, there *is* a sense in which the relationship is symmetrical as the possible worlds analysis demonstrates. But there is more to the relationship between cause and effect (or more generally, between an event and another event upon which it is contingent) than is expressed in the possible worlds relationship, and this is not symmetrical. Suppose A is God's willing to create material beings and B is the coming into existence of material beings. A and B are equivalent events;

A is necessary and sufficient for *B* and *B* is necessary and sufficient for *A*. But this does not capture the fact that God's will to create explains the existence of the material world in a way in which the existence of the material world does *not* explain God's will to create.

This asymmetry can hold between other states of affairs than events, I believe. Consider, for example, the property of being water, call it *A*, and the property of being H_2O, call it *B*. Even though *A* and *B* may go together in all possible worlds (*A* is a necessary and sufficient condition for *B* and *B* is a necessary and sufficient condition for *A*), being H_2O explains what it is to be water in a way in which being water does not explain what it is to be H_2O. Analogously, I want to say that a contingent event $\emptyset$ involving a human free choice explains God's foreknowledge of $\emptyset$ in a way in which God's foreknowledge does not explain the event $\emptyset$. Explanation involves an asymmetrical relationship that is not captured either by the concepts of necessary and sufficient conditions, nor by the possible worlds account.

To take a rather simplistic metaphor, suppose that a seer gazing into a crystal ball perceives propositions and that every proposition such a seer sees is true. Suppose further that every true proposition can be perceived in this way. The fact that the seer sees the proposition is both necessary and sufficient for the truth of the proposition and the truth of the proposition is both necessary and sufficient for the seer's seeing it, but the relationship of explanation is not symmetrical. It would definitely not be an explanation of the truth of some proposition to simply point out that the seer sees it in the ball. On the other hand, it would be an explanation of the fact that the seer sees the proposition, or at least a partial explanation, to say that the proposition is true. The seer's seeing ability does not make the proposition true, but the fact that the proposition is true in part makes the seer see it.

To get a really clear grasp of how it is that my act explains God's foreknowledge, whereas God's foreknowledge does not explain my act, it would be necessary to appeal to a general theory of explanation, something I am not prepared to do in this paper. However, I hope it would be useful to at least outline the considerations that such an account may involve. The main thing that an explanation does, I take it, is to make coherent some set of beliefs. This means that the *explicans* is logically or ontologically prior to the thing it explains. An *explicans* makes the *explicandum* understandable.

Even though we are talking about metaphysical rather than scientific explanation, it might be helpful to look at the classical account of the nature of explanation set out by C. G. Hempel. Let *C* = a group of events or states of affairs, one of which may be selected as 'the' cause. Let *L* = a set of natural laws or principles, normally in the form of universal generalizations. We then say that *C* and *L* explain *E* (some event or state of affairs which needs explaining) if *E* follows deductively from *C* and *L*.

The application of the Hempelian model to a metaphysical explanation of Divine foreknowledge might be as follows:

Let C = the event of a person A performing a free act $\emptyset$

  L = the metaphysical or theological principle that God is omniscient

  E = the event or state of affairs of God's knowing that A does $\emptyset$

Since E can obviously be deduced from L and C, we are entitled to say that L and C explain E on the Hempelian model. However, the order of deduction can just as well go the other way since C can be deduced from L and E. What right do we have to say that L and E do not really explain C the way L and C explain E? Though I do not have an answer to this question, I think it is important to see that this is not a problem peculiar to the matter of Divine foreknowledge, but it is a general problem in the theory of explanation. The Hempelian model has sometimes been criticized because it allows us to explain effect by cause as well as cause by effect.[1] Perhaps this is an example of the more general criticism that Hempel's model does not illustrate the asymmetry between *explicans* and *explicandum*. If so, the fact that in my account there is no clear way to tell that my act explains God's foreknowledge of it, but not conversely, may be a symptom of a general problem in the theory of explanation and is not a special weakness of this account of foreknowledge.

  In order to develop a theory of explanation that would be useful for the account I have given, I think it would be worthwhile to notice that a particular temporal order is not in general necessary for explanation. The only kind of explanation that might require a certain temporal order is causal explanation, and even that may not do so either, as I indicated in section VII. I have argued that God's foreknowledge of my free act depends on or is contingent on my act. I do not know whether it is correct to say that my act 'causes' the foreknowledge, but I suspect that this question is ultimately not very important since it is the general form of an asymmetrical explanation that is needed, whether or not it is called causal. This point is important when we remember that the only reason of logic that has ever been given for rejecting the claim that my act explains (brings about, causes) God's foreknowledge of it is the temporal order.

  Secondly, a useful theory of explanation should pursue the insight that the *explicans* and *explicandum* function very differently in a theory. The expressions 'water' and 'H_2O' function very differently in a theory, even though they are co-equivalent (in any possible world something is water if and only if it is H_2O). Similarly, the proposition that p and the proposition that God knows p will function very differently in a metaphysical theory even though they are logically equivalent (true in the same possible worlds). The problem for Divine foreknowledge and human free will, then, isn't that they are

---

[1] The law L may be such that it allows us to deduce E from L and C, where C consists of C_1 and C_2, but where we can also deduce C_1 from L, E and C_2.

to explain one in terms of the other; that is, we want to know that the human incompatible, but that even though they are compatible, there is still a need act 'comes first' in the order of explanation, and this requires a general account of the theory of explanation.[1]

To show that Divine foreknowledge and human free will are not logically incompatible, then, is not yet to resolve the tension between them. Philosophical understanding seeks harmony and the fact that two beliefs do not turn out to exhibit the worst kind of disharmony is not to say that they are harmonious. A full explanation of (1) and (2) would imbed them both in a wider theory within which they both seem not only possible but plausible. Such a theory would involve a general account of God's attributes in which an eternal and immutable God can be related to contingent events. Knowing is only one way God is related to the contingent. Willing is another.

[1] Alvin Plantinga makes a point similar to this in the 1980 Aquinas Lecture, 'Does God Have a Nature?', (Milwaukee: Marquette University Press, 1979), pp. 145–6.