

# Creation, Providence, and Miracle

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In treating divine action in the world, we must distinguish between creation, providence, and miracle. Creation has typically been taken to involve God's originating the world (*creatio originans*) and His sustaining the world in being (*creatio continuans*). A careful analysis of these two notions serves to differentiate creation from conservation. Providence is God's control of the world, either through secondary causes (*providentia ordinaria*) or supernaturally (*providentia extraordinaria*). A doctrine of divine middle knowledge supplies the key to understanding God's providence over the world mediated through secondary causes. Miracles are extraordinary acts of providence which should not be conceived, properly speaking, as violations of the laws of nature, but as the production of events which are beyond the causal powers of the natural entities existing at the relevant time and place.

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Source: In *Philosophy of Religion*, ed. Brian Davies (Washington, D.C.: Georgetown University Press, 1998), pp. 136-162

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## Creatio Ex Nihilo

"In the beginning God created the heavens and the earth" (Gen. 1.1). With majestic simplicity the author of the opening chapter of Genesis thus differentiated his viewpoint, not only from that of the ancient creation myths of Israel's neighbors, but also effectively from pantheism, panentheism, and polytheism. For the author of Genesis 1, no pre-existent material seems to be assumed, no warring gods or primordial dragons are present--only God, who is said to "create" (*bara*, a word used only with God as its subject and which does not presuppose a material substratum) "the heavens and the earth" (*et hassamayim we et ha ares*, a Hebrew expression for the totality of the world or, more simply, the universe). Moreover, this act of creation took place "in the beginning" (*bereshith*, used here as in Is. 46.10 to indicate an absolute beginning). The author thereby gives us to understand that the universe had a temporal origin and thus

implies *creatio ex nihilo* in the temporal sense that God brought the universe into being without a material cause at some point in the finite past. {1}

Later biblical authors so understood the Genesis account of creation. {2} The doctrine of *creatio ex nihilo* is also implied in various places in early extra-biblical Jewish literature. {3} And the Church Fathers, while heavily influenced by Greek thought, dug in their heels concerning the doctrine of creation, sturdily insisting, with few exceptions, on the temporal creation of the universe *ex nihilo* in opposition to the eternity of matter. {4} A tradition of robust argumentation against the past eternity of the world and in favor of *creatio ex nihilo*, issuing from the Alexandrian Christian theologian John Philoponus, continued for centuries in Islamic, Jewish, and Christian thought. {5} In 1215, the Catholic church promulgated temporal *creatio ex nihilo* as official church doctrine at the Fourth Lateran Council, declaring God to be "Creator of all things, visible and invisible, . . . who, by His almighty power, from the beginning of time has created both orders in the same way out of nothing." This remarkable declaration not only affirms that God created everything *extra se* without any material cause, but even that time itself had a beginning. The doctrine of creation is thus inherently bound up with temporal considerations and entails that God brought the universe into being at some point in the past without any antecedent or contemporaneous material cause.

At the same time, the Christian Scriptures also suggest that God is engaged in a sort of on-going creation, sustaining the universe in being. Christ "reflects the glory of God and bears the very stamp of His nature, upholding the universe by his word of power" (Heb. 1.3). Although relatively infrequently attested in Scripture in comparison with the abundant references to God's original act of creation, the idea of continuing creation came to constitute an important aspect of the doctrine of creation as well. For Thomas Aquinas, for example, this aspect becomes the core doctrine of creation, the question of whether the world's reception of being from God had a temporal commencement or not having only secondary importance. {6} For Aquinas creation is the immediate bestowal of being and as such belongs only to God, the universal principle of being; therefore, even if creatures have existed from eternity, they are still created *ex nihilo* in this metaphysical sense.

Thus, God is conceived in Christian theology to be the cause of the world both in His initial act of bringing the universe into being and in His on-going conservation of the world in being. These two actions have been traditionally classed as species of *creatio ex nihilo*, namely, *creatio originans* and *creatio continuans*. While this is a handy rubric, it unfortunately quickly becomes problematic if pressed to technical precision. As Philip Quinn points out {7}, if we say that a thing is created at a time  $t$  only if  $t$  is the first moment of the thing's existence, then the doctrine of *creatio continuans* lands us in a bizarre form of occasionalism, according to which no persisting individuals exist. At each instant God creates a new individual, numerically distinct from its chronological predecessor, so that diachronic personal identity and agency are precluded.

Rather than re-interpret creation in such a way as to not involve a time at which a thing first begins to exist, we ought to recognize that *creatio continuans* is but a *façon de parler* and that creation needs to be distinguished from conservation. As John Duns Scotus observed,

Properly speaking . . . it is only true to say that a creature is created at the first moment (of its existence) and only after that moment is it conserved, for only then does its being have this order to itself as something that was, as it were, there before. Because of these different conceptual relationships implied by the words 'create' and 'conserve' it follows that one does not apply to a thing when the other does. {8}

Intuitively, creation involves God's bringing something into being. Thus, if God creates some entity  $e$  (whether an individual or an event) at a time  $t$  (whether an instant or finite interval), then  $e$  comes into being at  $t$ . We can explicate this notion as follows:

$E_1$ .  $e$  comes into being at  $t$  iff (i)  $e$  exists at  $t$ , (ii)  $t$  is the first time at which  $e$  exists, and (iii)  $e$ 's existing at  $t$  is a tensed fact

Accordingly,

E<sub>2</sub>. God creates  $e$  at  $t$  iff God brings it about that  $e$  comes into being at  $t$

God's creating  $e$  involves  $e$ 's coming into being, which is an absolute beginning of existence, not a transition of  $e$  from non-being into being. In creation there is no patient entity on which the agent acts to bring about its effect. {9} It follows that creation is not a type of change, since there is no enduring subject which persists from one state to another. It is precisely for this reason that conservation cannot be properly thought of as essentially the same as creation. For conservation does presuppose a subject which is made to continue from one state to another. In creation God does not act on a subject, but constitutes the subject by His action; in contrast, in conservation God acts on an existing subject to perpetuate its existence. This is the import of Scotus's remark that only in conservation does a creature "have this order to itself as something that was, as it were, there before."

The fundamental difference between creation and conservation, then, lies in the fact that in conservation, as opposed to creation, there is presupposed a subject on which God acts. Intuitively, conservation involves God's preservation of that subject in being over time. Conservation ought therefore to be understood in terms of God's preserving some entity  $e$  from one moment of its existence to another. A crucial insight into conservation is that unlike creation, it does involve transition and therefore cannot occur at an instant. {10} We may therefore provide the following explication of divine conservation:

E<sub>3</sub>. God conserves  $e$  iff God acts upon  $e$  to bring about  $e$ 's existing from  $t$  until some  $t^* > t$  through every sub-interval of the interval  $[t, t^*]$

Creation and conservation thus cannot be adequately analyzed with respect to the divine act alone, but involve relations to the object of the act. The act itself (the causing of existence) may be the same in both cases, but in one case may be instantaneous and presupposes no prior object, whereas in the other case occurs over an interval and does involve a prior object.

The doctrine of creation also involves an important metaphysical feature which is rarely appreciated: it commits one to a tensed or, in McTaggart's convenient terminology, an A-Theory of time. {11} For if one adopts a tenseless or B-Theory of time, then things do not literally come into existence. Things are then four-dimensional objects which tenselessly subsist and begin to exist only in the sense that their extension along their temporal dimension is finite in the *earlier-than* direction. The whole four-dimensional, space-time manifold is extrinsically (as opposed to intrinsically) timeless, existing co-eternally with God. The universe thus does not come into being on a B-Theory of time, regardless of whether it has a finite or an infinite past relative to any time. Hence, clause (iii) in E<sub>2</sub> represents a necessary feature of creation. In the absence of clause (iii) God's creation of the universe *ex nihilo* could be interpreted along tenseless lines to postulate merely the finitude of cosmic time in the *earlier than* direction.

Since a robust doctrine of *creatio ex nihilo* thus commits one to an A-Theory of time, we are brought face to face with what has been called "one of the most neglected, but also one of the most important questions in the dialogue between theology and science," namely, the relation between the concept of eternity and that of the spatio-temporal structure of the universe. {12} Since the rise of modern theology with Schleiermacher, the doctrine of *creatio originans* has been allowed to atrophy, while the doctrine of *creatio continuans* has assumed supremacy. {13} Undoubtedly this was largely due to theologians' fear of a conflict with science, which *creatio continuans* permitted them to avoid by operating only within the safe harbor of metaphysics, removed from the realities of the physical, space-time world. {14} But the discovery in this century of the expansion of the universe, first predicted in 1922 by Alexander Friedman on the basis of the General Theory of Relativity, coupled with the Hawking-Penrose singularity theorems of 1968, which demonstrated the inevitability of a past, cosmic singularity as an initial boundary to space-time, forced the doctrine of *creatio originans* back into the spotlight. {15} As physicists Barrow and Tipler observe, "At this singularity, space and time came into existence; literally nothing existed before the

singularity, so, if the Universe originated at such a singularity, we would truly have a creation *ex nihilo*." {16}

Of course, various and sometimes heroic attempts have been made to avert the initial cosmological singularity posited in the standard Big Bang model and to regain an infinite past. But none of these alternatives has commended itself as more plausible than the standard model. The old steady state model, the oscillating model, and vacuum fluctuation models are now generally recognized among cosmologists to have failed as plausible attempts to avoid the beginning of the universe. {17} Most cosmologists believe that a final theory of the origin of the universe must await the as yet undiscovered quantum theory of gravity. Such quantum gravity models may or may not involve an initial singularity, although attention has tended to focus on those that do not. But even those that eliminate the initial singularity, such as the Hartle-Hawking model, still involve a merely finite past and, on any physically realistic interpretation of such models, imply a beginning of the universe. This is due to the peculiar feature of such models' employment of imaginary, rather than real, values for the time variable in the equations governing the universe during the first  $10^{-43}$  sec of its existence. Imaginary quantities in science are fictional, without physical significance. {18} Thus, use of such numbers is a mathematical "trick" or auxiliary device to arrive at physically significant quantities represented by real numbers. The Euclidean four-space from which classical space-time emerges in such models is thus a mathematical fiction, a way of modeling the early universe which should not be taken as a literal description. {19}

Now it might be said that so-called "imaginary time" just *is* a spatial dimension and to that extent is physically intelligible and so is to be realistically construed. But now the metaphysician must surely protest the reductionistic view of time which such an account presupposes. Time as it plays a role in physics is an operationally defined quantity varying from theory to theory: in the Special Theory of Relativity it is a quantity defined via clock synchronization by light signals, in classical cosmology it is a parameter assigned to spatial hyper-surfaces of homogeneity, in quantum cosmology it is a quantity internally constructed out of the curvature variables of three-geometries. But clearly these are but pale abstractions of time itself. {20} For a series of mental events alone, a succession of contents of consciousness, is sufficient to ground time itself. An unembodied consciousness which experienced a succession of mental states, say, by counting, would be temporal; that is to say, time would in such a case exist, and that wholly in the absence of any physical processes. I take this simple consideration to be a knock-down argument that time as it plays a role in physics is at best a measure of time, rather than constitutive or definitive of time. Hence, even if one were to accept at face value the claim of quantum cosmological models that physical time really is imaginary prior to the Planck time, that is to say, is a spatial dimension, that fact says absolutely nothing at all about time itself. When it is said that such a regime exists timelessly, all that means is that our physical measures of time (which in physics are taken to define time) break down under such conditions. That should hardly surprise. But time itself must characterize such a regime for the simple reason that it is not static. I am astonished that quantum theorists can assert that the quantum regime is on the one hand a state of incessant activity or change and yet is on the other not characterized by time. If this is not to be incoherent, such a statement can only mean that our concepts of physical time are inapplicable on such a scale, not that time itself disappears. But if time itself characterizes the quantum regime, as it must if change is occurring, then one can regress mentally in time back along the imaginary time dimension through concentric circles on the spherical hyper-surface as they converge toward a non-singular point which represents the beginning of the universe and before which time did not exist. Hartle-Hawking themselves recognize that point as the origin of the universe in their model, but how that point came into being (in metaphysical, that is, ontological, time) is a question not even addressed by their theory.

Hence, even on a naive realist construal of such models, they at best show that that quantity which is defined as time in physics ceases at the Planck time and takes on the characteristics of what physics defines as a spatial dimension. But time itself does not begin at the Planck time, but extends all the way back to the very beginning of the universe. Such theories, if successful, thus enable us to model the origin of the universe without an initial cosmological singularity and, by positing a finite imaginary time on a closed surface prior to the Planck time rather than an infinite time on an open surface, actually support temporal *creatio ex nihilo*.

But if the spatio-temporal structure of the universe exhibits an origination *ex nihilo*, then the difficulty concerns how to relate that structure to the divine eternity. For given the reality of tense and God's causal relation to the world, it is very difficult to conceive how God could remain untouched by the world's temporality. Imagine God existing changelessly alone without creation, with a changeless and eternal determination to create a temporal world. Since God is omnipotent, His will is done, and a temporal world begins to exist. (We may lay aside for now the question whether this beginning of a temporal creation would require some additional act of intentionality or exercise of power other than God's timeless determination.) Now in such a case, either God existed temporally prior to creation or He did not. If He did exist alone temporally prior to creation, then God is not timeless, but temporal, and the question is settled. Suppose, then, that God did not exist temporally prior to creation. In that case He exists timelessly *sans* creation. But once time begins at the moment of creation, God either becomes temporal in virtue of His real, causal relation to time and the world or else He exists as timelessly with creation as He does *sans* creation. But this second alternative seems quite impossible. At the first moment of time, God stands in a new relation in which He did not stand before (since there was no *before*). We need not characterize this as a change in God; but there is a real, causal relation which is at that moment new to God and which He does not have in the state of existing *sans* creation. At the moment of creation, God comes into the relation of *causing the universe* or at the very least that of *co-existing with the universe*, relations in which He did not before stand. Hence, even if God remains intrinsically changeless in creating the world, He nonetheless undergoes an extrinsic, or relational, change, which, if He is not already temporal prior to the moment of creation, draws Him into time at that very moment in virtue of His real relation to the temporal, changing universe. So even if God is timeless *sans* creation, His free decision to create a temporal world constitutes also a free decision on His part to enter into time and to experience the reality of tense and temporal becoming.

The classic Thomistic response to the above argument is, remarkably, to deny that God's creative activity in the world implies that God is really related to the world. Aquinas tacitly agrees that if God were really related to the temporal world, then He would be temporal. {21} In the coming to be of creatures, certain relations accrue to God anew and thus, if these relations be real for God, He must be temporal in light of His undergoing extrinsic change, wholly apart from the question of whether God undergoes intrinsic change in creating the world. So Thomas denies that God has any real relation to the world. According to Aquinas, while the temporal world does have the real relation of *being created by God*, God does not have a real relation of *creating the temporal world*. Since God is immutable, the new relations predicated of Him at the moment of creation are just in our minds; in reality the temporal world itself is created with a relation inhering in it of *dependence on God*. Hence, God's timelessness is not jeopardized by His creation of a temporal world.

This unusual doctrine of creation becomes even stranger when we reflect on the fact that in creating the world God does not perform some act extrinsic to His nature; rather the creature (which undergoes no change but simply begins to exist) begins to be with a relation to God of *being created by God*. According to this doctrine, then, God in freely creating the universe does not really do anything different than He would have, had He refrained from creating; the only difference is to be found in the universe itself: instead of God existing alone *sans* the universe we have instead a universe springing into being at the first moment of time possessing the property *being created by God*, even though God, for His part, bears no real reciprocal relation to the universe made by Him.

I think it hardly needs to be said that Thomas's solution, despite its daring and ingenuity, is extraordinarily implausible. "Creating" clearly describes a relation which is founded on something's intrinsic properties concerning its causal activity, and therefore *creating the world* ought to be regarded as a real property acquired by God at the moment of creation. It seems unintelligible, if not contradictory, to say that one can have real effects without real causes. Yet this is precisely what Aquinas affirms with respect to God and the world.

Moreover, it is the implication of Aquinas's position that God is perfectly similar across possible worlds, the same even in worlds in which He refrains from creation as in worlds in which He creates. For in none of these worlds does God have any relation to anything *extra se*. In all these worlds God never acts

differently, He never cognizes differently, He never wills differently; He is just the simple, unrelated act of being. Even in worlds in which He does not create, His act of being, by which creation is produced, is no different in these otherwise empty worlds than in worlds chock-full of contingent beings of every order. Thomas's doctrine thus makes it unintelligible why the universe exists rather than nothing. The reason obviously cannot lie in God, either in His nature or His activity (which are only conceptually distinct anyway), for these are perfectly similar in every possible world. Nor can the reason lie in the creatures themselves, in that they have a real relation to God of *being freely willed by God*. For their existing with that relation cannot be explanatorily prior to their existing with that relation. I conclude, therefore, that Thomas' solution, based in the denial of God's real relation to the world, cannot succeed in hermetically sealing off God in atemporality.

The above might lead one to conclude that God existed temporally prior to His creation of the universe in a sort of metaphysical time. But while it makes sense to speak of such a metaphysical time prior to the inception of physical time at the Big Bang (think of God's counting down to creation: . . ., 3, 2, 1, *fiat lux!*), the notion of an actual infinity of past events or intervals of time seems strikingly counter-intuitive. Not only would we be forced to swallow all the bizarre and ultimately contradictory consequences of an actual infinite, but we would also be saddled with the prospect of God's having "traversed" the infinite past one moment at a time until He arrived at the moment of creation, which seems absurd. Moreover, on such an essentially Newtonian view of time, we would have to answer the difficult question which Leibniz lodged against Clarke: why did God delay for infinite time the creation of the world? {22} In view of these perplexities, it seems more plausible to adopt the Leibnizian alternative of some sort of relational view of time according to which time does not exist in the utter absence of events. {23} God existing alone *sans* creation would be changeless and, hence, timeless, and time would begin at the first event, which, for simplicity's sake, we may take to be the Big Bang. God's bringing the initial cosmological singularity into being is simultaneous (or coincident) with the singularity's coming into being, and therefore God is temporal from the moment of creation onward. Though we might think of God as existing, say, one hour prior to creation, such a picture is, as Aquinas states, purely the product of our imagination and time prior to creation merely an imaginary time (in the phantasmagorical, not mathematical, sense!). {24}

Why, then, did God create the world? It has been said that if God is essentially characterized by self-giving love, creation becomes necessary. {25} But the Christian doctrine of the Trinity suggests another possibility. Insofar as He exists *sans* creation, God is not, on the Christian conception, a lonely monad, but in the tri-unity of His own being, God enjoys the full and unchanging love relationships among the persons of the Trinity. Creation is thus unnecessary for God and is sheer gift, bestowed for the sake of creatures, that we might experience the joy and fulfillment of knowing God. He invites us, as it were, into the inner-Trinitarian love relationship as His adopted children. Thus, creation, as well as salvation, is *sola gratia*.

## Providence

The biblical worldview involves a very strong conception of divine sovereignty over the world and human affairs, even as it presupposes human freedom and responsibility. While too numerous to list here, biblical passages affirming God's sovereignty have been grouped by D. A. Carson under four main heads: (1) God is the Creator, Ruler, and Possessor of all things, (2) God is the ultimate personal cause of all that happens, (3) God elects His people, and (4) God is the unacknowledged source of good fortune or success. {26} No one taking these passages seriously can embrace currently fashionable libertarian revisionism, which denies God's sovereignty over the contingent events of history. On the other hand, the conviction that human beings are free moral agents also permeates the Hebrew way of thinking, as is evident from passages listed by Carson under nine heads: (1) People face a multitude of divine exhortations and commands, (2) people are said to obey, believe, and choose God, (3) people sin and rebel against God, (4) people's sins are judged by God, (5) people are tested by God, (6) people receive divine rewards, (7) the elect are responsible to respond to God's initiative, (8) prayers are not mere showpieces scripted by God, and (9) God literally pleads with sinners to repent and be saved. {27} These passages rule out a traditional deterministic understanding of divine providence, which precludes human freedom.

Reconciling these two streams of biblical teaching without compromising either has proven extraordinarily difficult. Nevertheless, a startling solution to this enigma emerges from the doctrine of divine middle knowledge crafted by the Counter-Reformation Jesuit theologian Luis Molina. {28} Molina proposes to furnish an analysis of divine knowledge in terms of three logical moments. Although whatever God knows, He knows eternally, so that there is no temporal succession in God's knowledge, nonetheless there does exist a sort of logical succession in God's knowledge in that His knowledge of certain propositions is conditionally or explanatorily prior to His knowledge of certain other propositions. In the first, unconditioned moment God knows all *possibilia*, not only all individual essences, but also all possible worlds. Molina calls such knowledge "natural knowledge" because the content of such knowledge is essential to God and in no way depends on the free decisions of His will. By means of His natural knowledge, then, God has knowledge of every contingent state of affairs which could possibly obtain and of what the exemplification of the individual essence of any free creature could freely choose to do in any such state of affairs that should be actual.

In the second moment, God possesses knowledge of all true counterfactual propositions, including counterfactuals of creaturely freedom. Whereas by His natural knowledge God knew what any free creature *could* do in any set of circumstances, now in this second moment God knows what any free creature *would* do in any set of circumstances. This is not because the circumstances causally determine the creature's choice, but simply because this is how the creature would freely choose. God thus knows that were He to actualize certain states of affairs, then certain other contingent states of affairs would obtain. Molina calls this counterfactual knowledge "middle knowledge" because it stands in between the first and third moment in divine knowledge. Middle knowledge is like natural knowledge in that such knowledge does not depend on any decision of the divine will; God does not determine which counterfactuals of creaturely freedom are true or false. Thus, if it is true that *If some agent S were placed in circumstances C, then he would freely perform action a*, then even God in His omnipotence cannot bring it about that *S* would freely refrain from *a* if he were placed in *C*. On the other hand, middle knowledge is unlike natural knowledge in that the content of His middle knowledge is not essential to God. True counterfactuals are contingently true; *S* could freely decide to refrain from *a* in *C*, so that different counterfactuals could be true and be known by God than those that are. Hence, although it is essential to God that He have middle knowledge, it is not essential to Him to have middle knowledge of those particular propositions which He does in fact know.

Intervening between the second and third moments of divine knowledge stands God's free decree to actualize a world known by Him to be realizable on the basis of His middle knowledge. By His natural knowledge, God knows what is the entire range of logically possible worlds; by His middle knowledge He knows, in effect, what is the proper subset of those worlds which it is feasible for Him to actualize. By a free decision, God decrees to actualize one of those worlds known to Him through His middle knowledge.

Given God's free decision to actualize a world, in the third and final moment God possesses knowledge of all remaining propositions that are in fact true in the actual world, including future contingent propositions. Such knowledge is denominated "free knowledge" by Molina because it is logically posterior to the decision of the divine will to actualize a world. The content of such knowledge is clearly not essential to God, since He could have decreed to actualize a different world. Had He done so, the content of His free knowledge would be different.

The doctrine of middle knowledge is a doctrine of remarkable theological fecundity. Molina's scheme would resolve in a single stroke most of the traditional difficulties concerning divine providence and human freedom. Molina defines providence as God's ordering of things to their ends, either directly or mediately through secondary agents. By His middle knowledge God knows an infinity of orders which He could instantiate because He knows how the creatures in them would in fact freely respond given the various circumstances. He then decides by the free act of His will how He would respond in these various circumstances and simultaneously wills to bring about one of these orders. He directly causes certain circumstances to come into being and others indirectly by causally determined secondary causes. Free creatures, however, He allows to act as He knew they would when placed in such circumstances, and He concurs with their decisions in producing in being the effects they desire. Some of these effects God desired unconditionally and so wills positively that they occur, but others He does not unconditionally

desire, but nevertheless permits due to His overriding desire to allow creaturely freedom and knowing that even these sinful acts will fit into the overall scheme of things, so that God's ultimate ends in human history will be accomplished. {29} God has thus providentially arranged for everything that happens by either willing or permitting it, yet in such a way as to preserve freedom and contingency.

Molinism thus effects a dramatic reconciliation between divine sovereignty and human freedom. Before we embrace such a solution, however, we should ask what objections might be raised against a Molinist account. Surveying the literature, one discovers that the detractors of Molinism tend not so much to criticize the Molinist doctrine of providence as to attack the concept of middle knowledge upon which it is predicated. It is usually alleged that counterfactuals of freedom are not bivalent or are uniformly false or that God cannot know such counterfactual propositions. These objections have been repeatedly refuted by defenders of middle knowledge, {30} though opposition dies hard. But as Freddoso and Wierenga pointed out in an American Philosophical Association session devoted to a recent popularization of libertarian revisionism, until the opponents of middle knowledge answer the refutations of their objections--which they have yet to do,--there is little new to be said in response to their criticisms. Let us consider, then, objections, not to middle knowledge *per se*, but to a Molinist account of providence.

Robert Adams has recently argued that divine middle knowledge of counterfactuals of creaturely freedom is actually incompatible with human freedom. Although inspired by an argument of William Hasker for the same conclusion, Adams's argument avoids any appeal to Hasker's dubious--and, I should say, clearly false--premiss that on the Molinist view counterfactuals of freedom are more fundamental features of the world than are categorical facts. {31} Adams summarizes his argument "very roughly" as follows"

Suppose it is not only true that P would do A if placed in circumstances C; suppose that truth was settled, as Molinism implies, prior to God's deciding what, if anything, to create, and it would therefore have been a truth even if P had never been in C--indeed even if P had never existed. Then it is hard to see how it can be up to P to determine freely whether P does A in C. {32}

Granted that this summary is admittedly very rough, still it is frustratingly ambiguous. The argument seems to assume as a premiss that there is a true counterfactual of creaturely freedom  $\emptyset$  that *If P were in C, P would do A*, whose antecedent is true.

Is the objection then supposed to be aimed at the imagined claim that P *freely* brings about the truth of  $\emptyset$ ? Is Adams asserting that P cannot freely bring about the truth of  $\emptyset$  because if, posterior to God's middle knowledge of  $\emptyset$ , P were not in C or did not exist at all,  $\emptyset$  would still be true, though P never does A in C, which is absurd? Is Adams saying that once the content of God's middle knowledge is fixed, P is no longer free with respect to A in C? If this is the argument, then it is just the old bogey of fatalism raising its fallacious head in a new guise, as Jonathan Kvanvig points out effectively in his critique of Adams's similar argument against the temporal pre-existence of "thisnesses." {33} Just as we have the power to act in such a way that were we to do so, future-tense propositions which were in fact true would not have been true, so things can happen differently than they will, in which case thisnesses and singular propositions which in fact exist(ed) would not have existed. Analogously, the Molinist could hold that it is within our power so to act that were we to do so, the truth of counterfactuals of creaturely freedom which is brought about by us would not have been brought about by us.

But perhaps this is not what Adams intends. Maybe the argument is that if  $\emptyset$  is true logically prior to God's decree, then God still has the choice whether to instantiate worlds in which the antecedent of  $\emptyset$  is true or not. If, then, God decrees to actualize a world in which P is not in C or does not exist at all,  $\emptyset$  still remains true, being part of what Thomas Flint calls the "world type" which confronts God prior to His decree. {34} But then how can P bring about the truth of  $\emptyset$ , if P does not even exist? The Molinist answer to that question, however, is straightforward: P does not in that case bring about the truth of  $\emptyset$ . The hypothetical Molinist against whom this objection is directed holds *ex hypothesi* "that in the case of a true counterfactual of freedom with a true antecedent it is the agent of the free action described in the consequent who brings it about that the conditional is true." {35} That claim is consistent--though I, like Adams, cannot imagine why any Molinist should want to maintain such a claim--with the further claim that in cases of true

counterfactuals of creaturely freedom lacking true antecedents, their truth is not brought about by the agents described. In my opinion, it is better to say that in all cases of true counterfactuals of creaturely freedom, the truth of a counterfactual like  $\emptyset$  is grounded in the obtaining in the actual world (logically prior to God's decree) of the counterfactual state of affairs that if P were in C, then he would do A, and that any further explanation of this fact implicitly denies libertarianism. {36} Just as a true, contingent, future-tense proposition of the form *It will be the case that P does A at t* cannot be explained in terms of the truth of a tenseless proposition of the form *P does A at t*, so it is futile to try to explain true counterfactuals of creaturely freedom of the form *If P were in C, P would do A* in terms of categorical, indicative propositions of a form like *P will do A in C*. Just as irreducibly tensed facts are needed in the former case, conditional subjunctive facts are needed in the latter. Be that as it may, however, Adams's intuitive reasoning provides no grounds for rejecting either the view that the truth of counterfactuals of creaturely freedom with true antecedents is brought about by the agents described or the view that the truth of counterfactuals of creaturely freedom of any kind is not brought about by the agents described.

Having summarized the intuitive basis of his argument, Adams develops the following more rigorous formulation:

1. According to Molinism, the truth of all true counterfactuals of freedom about us is explanatorily prior to God's decision to create us.
2. God's decision to create us is explanatorily prior to our existence.
3. Our existence is explanatorily prior to all of our choices and actions.
4. The relation of explanatory priority is transitive.
5. Therefore it follows from Molinism (by 1-4) that the truth of all true counterfactuals of freedom about us is explanatorily prior to all of our choices and actions.
10. It follows also from Molinism that if I freely do action A in circumstances C, then there is a true counterfactual of freedom F\*, which says that if I were in C, then I would (freely) do A.
11. Therefore, it follows from Molinism that if I freely do A in C, the truth of F\* is explanatorily prior to my choosing and acting as I do in C.
12. If I freely do A in C, no truth that is strictly inconsistent with my refraining from A in C is explanatorily prior to my choosing and acting as I do in C.
13. The truth of F\* (which says that if I were in C, then I would do A) is strictly inconsistent with my refraining from A in C.
14. If Molinism is true, then if I freely do A in C, F\* both is (by 11) and is not (by 12-13) explanatorily prior to my choosing and acting as I do in C.
15. Therefore, (by 14) if Molinism is true, then I do not freely do A in C.

In his critique of Adams's earlier anti-Molinist argument, Alvin Plantinga charged that the argument is unsound because the dependency relation involved is not a transitive relation. {37} It seems to me that the present argument shares a similar failing. The notion of "explanatory priority" as it plays a role in the argument seems to me equivocal, and if a univocal sense can be given it, there is no reason to expect it to be transitive.

Consider the explanatory priority in (2) and (3). Here a straightforward interpretation of this notion can be given in terms of the counterfactual dependence of consequent on condition:

- 2'. If God had not created us, we should not exist.
- 3'. If we were not to exist, we should not make any of our choices and actions.

Both (2') and (3') are metaphysically necessary truths. But this sense of explanatory priority is inapplicable to (1), for

- 1'. According to Molinism, if all true counterfactuals of freedom about us were not true, God would not have decided to create us

is false. Molinism makes no such assertion, since God might still have created us even if the actually true counterfactuals of creaturely freedom were false or even, *per impossible*, if no such counterfactuals at all were true. The sense of explanatory priority in (1) must therefore be different than it is in (2) and (3).

The root of the difficulty seems to be a conflation of reasons and causes on Adams's part. The priority in (2) and (3) is a sort of causal or ontic priority, but the priority in (1) is not causal or ontic, since the truth of all counterfactuals of creaturely freedom is neither a necessary nor a sufficient condition of God's decision to create us. At best, the truth of such counterfactuals is prior to His decision in providing a partial reason for that decision. Adams's mistake seems to be that he leaps from God's decision in the hierarchy of reasons to God's decision in the hierarchy of causes and by this equivocation tries to make counterfactuals of creaturely freedom explanatorily prior to our free choices.

Perhaps Adams can enunciate a univocal sense of "explanatory priority" that is applicable to (1-3). But I suspect that any such notion would be so generic that we should have to deny its transitivity or so weak that it would not be inimical to human freedom. This suspicion is borne out by Hasker's very recent attempt to save Adams's argument by enunciating a very broad conception of explanatory priority which is univocal in (1)-(3) and yet transitive: for contingent states of affairs  $p$  and  $q$ ,

EP:  $p$  is explanatorily prior to  $q$  iff  $p$  must be included in a complete explanation of why  $q$  obtains

Hasker asserts, "It should be apparent that explanatory priority as explicated by (EP) is transitive: if  $p$  is explanatorily prior to  $q$ , and  $q$  to  $r$ , then clearly  $p$  must be included in a complete explanation of why  $r$  obtains." {38} But this is not at all clear. As Hasker observes, such a relation must also be irreflexive: "a contingent state of affairs cannot constitute an explanation (in whole or in part) of itself." {39} But if the relation described by (EP) is transitive, then it seems that the condition of irreflexivity is violated. My wife and I not infrequently find ourselves in the situation that I want to do something if she wants to do it, and she wants to do it if I want to do it. Suppose, then, that John is going to the party because Mary is going, and Mary is going to the party because John is going. It follows that if the (EP) relation is transitive, John is going to the party because John is going to the party, which conclusion is obviously wrong. Not only is such a conclusion explanatorily vacuous, but it also implies, in conjunction with (12), that John does not freely go to the party--the very conclusion Hasker wants to avoid.

Adams's *reductio* also fails because (12) is false. What is undeniably true is

12'. If I freely do A in C, no truth that is strictly inconsistent with my doing A in C is explanatorily prior to my choosing and acting as I do in C.

But why would we be tempted to think that no truth which is inconsistent with my *not* doing A in C is explanatorily prior to my freely doing A in C? Certainly

F\*\*. If I were in C, then I would not do A

cannot be explanatorily prior to my freely doing A in C; but why would F\*\* not be explanatorily prior to my freely not doing A in C? Adams's intuition seems to be that if F\* were explanatorily prior to my doing A in C, then I could not refrain from A, which is a necessary condition of my doing A freely. {40} But such an assumption seems doubly wrong. First, it represents once more the fallacious reasoning of fatalism. Though F\* is (*ex concessio*) in fact explanatorily prior to my freely doing A in C, it is within my power to refrain from doing A in C; only if I were to do so, F\* would not then be explanatorily prior to my action nor a part of God's middle knowledge. Until Adams can show that the content of God's middle knowledge is a "hard fact," his argument based on (12) is undercut. Second, my being able to refrain from doing A in C is not a necessary condition of my freely doing A in C. For perhaps I do A in C without any causal constraint, but it is also the case that God would not permit me to refrain from A in C. Perhaps it is true that

G. If I were to attempt to refrain from doing A in C, God would not permit me to refrain from doing A in C.

(G) is inconsistent with my refraining from doing A in C, and yet it may well be explanatorily prior to my freely doing A in C. Flint's essay on infallibility, which appears in the same volume as Adams's, provides a good illustration. {41} Suppose I am the Pope and A is promulgating *ex cathedra* only correct doctrine. God knew via His middle knowledge that if I were in C, I would freely do A. Therefore, His creative decree includes my being elected Pope. Given papal infallibility, (G) may also be true and part of God's middle knowledge, and so is explanatorily prior to my freely doing A in C. But (G) is inconsistent with my refraining from A in C. If such a scenario is coherent--and Flint seems to have refuted all objections to it--, then (12) is false.

The sense of explanatory priority explicated in Hasker's (EP) is so weak that even if the Molinist simply concedes the truth of (5) in this sense, then (12) is all the more obviously false. For counterfactuals concerning our free actions may be explanatorily prior to those actions only in the sense that God's reason for creating us may have been in part that He knew we should freely do such things. But it is wholly mysterious how this sense of explanatory priority is incompatible with our performing such actions freely. In a footnote, Hasker claims that Adams's argument can be freed from reliance on (12), referring the reader to his own argument against middle knowledge. {42} But the duly attentive reader will find in that discussion nothing but a reiteration of Hasker's previous argument on this score with no refutation of the several objections lodged against it in the literature. {43}

Thus, it seems to me that both sides of Adams's *reductio* argument are unsound. His attempt to show that counterfactuals of creaturely freedom are explanatorily prior to our actions fails due to equivocation. And even if they were in some peculiar sense explanatorily prior to our actions because they are true and known by God logically prior to categorical contingent propositions, that would not be incompatible with the freedom of our actions. In short, neither Adams nor Hasker has been able to explicate a sense of explanatory priority with respect to the truth of counterfactuals of creaturely freedom which is both transitive and inimical to human freedom. Given that the objections against a Molinist doctrine of providence thus fail, the theological power of such an account ought to prompt us to avail ourselves of it.

## Miracle

It hardly needs to be demonstrated that the biblical narrative of divine action in the world is a narrative replete with miraculous events. God is conceived to bring about events which natural things, left to their own resources, would not bring about. Hence, miracles are able to function as signs of divine activity. {44} "Why this is a marvel!" exclaims the man born blind, when confronted with the Pharisees' scepticism concerning Jesus's rectification of his sight, "Never since the world began has it been heard that any one opened the eyes of a man born blind. If this man were not from God, he could do nothing" (Jn. 9.30-33).

In order to differentiate between the customary way in which God acts and His special, miraculous action, theologians have traditionally distinguished within divine providence God's *providentia ordinaria* and His *providentia extraordinaria*, the latter being identified with miracles. But our exposition of divine providence based on God's middle knowledge suggests a category of non-miraculous, special providence, which it will be helpful to distinguish. One has in mind here events which are the product of natural causes but whose context is such as to suggest a special divine intention with regard to their occurrence. For example, just as the Israelites approach the Jordan River, a rockslide upstream blocks temporarily the water's flow, enabling them to cross into the Promised Land (Josh 3. 14-17); or again, as Paul and Silas lie bound in prison for preaching the gospel, an earthquake occurs, springing the prison doors and unfastening their fetters (Acts 16.25-26). By means of His middle knowledge, God can providentially order the world so that the natural causes of such events are, as it were, ready and waiting to produce such events at the propitious time, perhaps in answer to prayers which God knew would be offered. Of course, if such prayers were not be offered or the contingent course of events were to go differently, then God would have known this and so not arranged the natural causes, including human free volitions, to produce the special providential event. Events wrought by special providence are no more outside the course and capacity of

nature than are events produced by God's ordinary providence, but the context of such events, such as their timing, their coincidental nature, and so forth, is such as to point to a special divine intention to bring them about.

If, then, we distinguish miracles from both God's *providentia ordinaria* and *extraordinaria*, how should we characterize miracles? Since the dawning of modernity, miracles have been widely understood to be "violations of the laws of nature." In his *Dictionary* article on miracles, for example, Voltaire states that according to accepted usage, "A miracle is the violation of mathematical, divine, immutable, eternal laws" and is therefore a contradiction. {45} Voltaire is in fact quite right that such a definition is a contradiction, but this ought to have led him to conclude, not that miracles can thus be defined out of existence, but that the customary definition is defective. Indeed, an examination of the chief competing schools of thought concerning the notion of a natural law in fact reveals that on each theory the concept of a violation of a natural law is incoherent and that miracles need not be so defined. Broadly speaking, there are three main views of natural law today: the regularity theory, the nomic necessity theory, and the causal dispositions theory. {46}

According to the regularity theory, the "laws" of nature are not really laws at all, but just generalized descriptions of the way things happen in the world. They describe the regularities which we observe in nature. Now since on such a theory a natural law is just a generalized description of *whatever* occurs in nature, it follows that no event which occurs can violate such a law. Instead, it just becomes part of the description. The law cannot be violated, because it describes in a certain generalized form everything that does happen in nature.

According to the nomic necessity theory, natural laws are not merely descriptive, but tell us what can and cannot happen in the natural world. They allow us to make certain counterfactual judgments, such as "If the density of the universe were sufficiently high, it would have re-contracted long ago," which a purely descriptivist theory would not permit. Again, however, since natural laws are taken to be universal inductive generalizations, a violation of a natural law is no more possible on this theory than on the regularity theory. So long as natural laws are *universal* generalizations based on experience, they must take account of anything that happens and so would be revised should an event occur which the law does not encompass.

Of course, in practice proponents of such theories do not treat natural laws so rigidly. Rather, natural laws are assumed to have implicit in them certain *ceteris paribus* assumptions such that a law states what is the case under the assumption that no other natural factors are interfering. When a scientific anomaly occurs, it is usually assumed that some unknown natural factors are interfering, so that the law is neither violated nor revised. But suppose the law fails to describe or predict accurately because some *supernatural* factors are interfering? Clearly the implicit assumption of such laws is that no supernatural factors as well as no natural factors are interfering. If the law proves inaccurate in a particular case because God is acting, the law is neither violated nor revised. If God brings about some event which a law of nature fails to predict or describe, such an event cannot be characterized as a violation of a law of nature, since the law is valid only on the assumption that no supernatural factors in addition to the natural factors come into play.

On such theories, then, miracles ought to be defined as naturally impossible events, that is to say, events which cannot be produced by the natural causes operative at a certain time and place. Whether an event is a miracle is thus relative to a time and place. Given the natural causes operative at a certain time and place, for example, rain may be naturally inevitable or necessary, but on another occasion, rain may be naturally impossible. Of course, some events, say, the resurrection, may be absolutely miraculous in that they are at every time and place beyond the productive capacity of natural causes.

According to the causal dispositions theory, things in the world have different natures or essences, which include their causal dispositions to affect other things in certain ways, and natural laws are metaphysically necessary truths about what causal dispositions are possessed by various natural kinds of things. For example, "Salt has a disposition to dissolve in water" would state a natural law. If, due to God's action, some salt failed to dissolve in water, the natural law is not violated, because it is still true that salt has such

a disposition. As a result of things' causal dispositions, certain deterministic natural propensities exist in nature, and when such a propensity is not impeded (by God or some other free agent), then we can speak of a natural necessity. On this theory, an event which is naturally necessary must and does actually occur, since the natural propensity will automatically issue forth in the event if it is not impeded. By the same token, a naturally impossible event cannot and does not actually occur. Hence, a miracle cannot be characterized on this theory as a naturally impossible event. Rather, a miracle is an event which results from causal interference with a natural propensity which is so strong that only a supernatural agent could impede it. The concept of miracle is essentially the same as under the previous two theories, but one just cannot call a miracle "naturally impossible" as those terms are defined in this theory; perhaps we could adopt instead the nomenclature "physically impossible" to characterize miracles under such a theory.

On none of these theories, then, should miracles be understood as violations of the laws of nature. Rather they are naturally (or physically) impossible events, events which at certain times and places cannot be produced by the relevant natural causes.

Now the question is, what could conceivably transform an event that is naturally impossible into a real historical event? Clearly, the answer is the personal God of theism. For if a transcendent, personal God exists, then He could cause events in the universe that could not be produced by causes within the universe. Given a God who created the universe, who conserves the world in being, and who is capable of acting freely, Christian theologians seem to be entirely justified in maintaining that miracles are possible. Indeed, if it is even (epistemically) possible that such a transcendent, personal God exists, then it is equally possible that He has acted miraculously in the universe. Only to the extent that one has good grounds for believing atheism to be true could one be rationally justified in denying the possibility of miracles. In this light arguments for the impossibility of miracles based upon defining them as violations of the laws of nature become fatuous.

The more interesting question is whether the identification of any event as a miracle is possible. On the one hand, it might be argued that a convincing demonstration that a purportedly miraculous event has occurred would only succeed in forcing us to revise natural law so as to accommodate the event in question. But as Swinburne has argued, a natural law is not abolished because of one exception; the counter-instance must occur repeatedly whenever the conditions for it are present. {47} If an event occurs which is, as Swinburne puts it, contrary to a law of nature and we have reasons to believe that this event would not occur again under similar circumstances, then the law in question will not be abandoned. One may regard an anomalous event as repeatable if another formulation of the natural law better accounts for the event in question, and if it is no more complex than the original law. If any doubt exists, the scientist may conduct experiments to determine which formulation of the law proves more successful in predicting future phenomena. In a similar way, one would have good reason to regard an event as a non-repeatable counter-instance to a law if the reformulated law were much more complicated than the original without yielding better new predictions or by predicting new phenomena unsuccessfully where the original formulation predicted successfully. If the original formulation remains successful in predicting all new phenomena as the data accumulate, while no reformulation does any better in predicting the phenomena and explaining the event in question, then the event should be regarded as a non-repeatable counter-instance to the law. Hence, a miraculous event would not serve to upset the natural law:

We have to some extent good evidence about what are the laws of nature, and some of them are so well-established and account for so many data that any modifications to them which suggest to account for the odd counter-instance would be so clumsy and *ad hoc* as to upset the whole structure of science. In such cases the evidence is strong that if the purported counter-instance occurred it was a violation of the laws of nature. {48}

Swinburne unfortunately retains the violation concept of miracle, which would invalidate his argument; but if we conceive of a miracle as a naturally impossible event, he is on target in reasoning that the admission of such an event would not lead to the abandonment of a natural law.

On the other hand, it might be urged that if a purportedly miraculous event were demonstrated to have occurred, we should conclude that the event occurred in accordance with unknown natural causes and laws. The question is, what serves to distinguish a genuine miracle from a mere scientific anomaly? Here the religio-historical context of the event becomes crucial. A miracle without a context is inherently ambiguous. But if a purported miracle occurs in a significant religio-historical context, then the chances of its being a genuine miracle are increased. For example, if the miracles occur at a momentous time (say, a man's leprosy vanishing when Jesus speaks the words, "Be clean!") and do not recur regularly in history, and if the miracles are numerous and various, then the chances of their being the result of some unknown natural causes are reduced. In Jesus's case, moreover, his miracles and resurrection ostensibly took place in the context of and as the climax to his own unparalleled life and teachings and produced so profound an effect on his followers that they called him Lord. The central miracle of the New Testament, the resurrection of Jesus, was, if it occurred, doubtlessly a miracle. In the first place, the resurrection so exceeds what we know of natural causes that it can only be reasonably attributed to a supernatural cause. The more we learn about cell necrosis, the more evident it becomes that such an event is naturally impossible. If it were the effect of unknown natural causes, then its uniqueness in the history of mankind becomes inexplicable. Secondly, the supernatural explanation is given immediately in the religio-historical context in which the event occurred. Jesus's resurrection was not merely an anomalous event, occurring without context; it came as the climax to Jesus's own life and teachings. As Wolfhart Pannenberg explains,

The resurrection of Jesus acquires such decisive meaning, not merely because someone or anyone has been raised from the dead, but because it is Jesus of Nazareth, whose execution was instigated by the Jews because he had blasphemed against God.

Jesus' claim to authority, through which he put himself in God's place, was . . . blasphemous for Jewish ears. Because of this Jesus was then also slandered before the Roman Governor as a rebel. If Jesus really has been raised, this claim has been visibly and unambiguously confirmed by the God of Israel, who was allegedly blasphemed by Jesus. {49}

We should therefore have good reasons to regard Jesus's resurrection, if it occurred, as truly miraculous. Thus, while it may, indeed, be difficult to know in some cases whether a genuine miracle has occurred, that does not imply pessimism with respect to all cases.

But perhaps the very natural impossibility of a genuine miracle precludes our ever identifying an event as a miracle. As Hume notoriously argued, perhaps it is always more rational to believe that some mistake or deception is at play than to believe that a genuine miracle has occurred. {50} This conclusion is based on Hume's principle that it is always more probable that the testimony to a miracle is false than that the miracle occurred. But Hume's principle incorrectly assumes that miracles are highly improbable. With respect to the resurrection of Jesus, for example, the hypothesis "God raised Jesus from the dead" is not improbable, either relative to our background information or to the specific evidence. What is improbable relative to our background information is the hypothesis "Jesus rose naturally from the dead." Given what we know of cell necrosis, that hypothesis is fantastically, even unimaginably, improbable. Conspiracy theories, apparent death theories, hallucination theories, twin brother theories--almost any hypothesis, however unlikely, seems more probable than the hypothesis that all the cells in Jesus's corpse spontaneously came back to life again. But such naturalistic hypotheses are not more probable than the hypothesis that God raised Jesus from the dead. The evidence for the laws of nature relevant in this case makes it probable that a resurrection from the dead is naturally impossible, which renders improbable the hypothesis that Jesus rose naturally from the grave. But such evidence is simply irrelevant to the probability of the hypothesis that God raised Jesus from the dead. That hypothesis needs to be weighed in light of the specific evidence concerning such facts as the post-mortem appearances of Jesus, the vacancy of the tomb where Jesus's corpse was laid, the origin of the original disciples' firm belief that God had, in fact, raised Jesus, and so forth, in the religio-historical context in which the events took place and assessed in terms of the customary criteria used in justifying historical hypotheses, such as explanatory power, explanatory scope, plausibility, and so forth. When this is done, there is no reason *a priori* to expect that it will be more probable that the testimony is false than that the hypothesis of miracle is true.

Given the God of creation and providence described in classical theism, miracles are possible and, when occurring under certain conditions, plausibly identifiable.

### Guide to Further Reading

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### EndNotes

{1} On Gen. 1.1 as an independent clause which is not a mere chapter title, see Claus Westermann, *Genesis I-11*, trans. John Scullion (Minneapolis: Augsburg, 1984), p. 97; John Sailhammer, *Genesis*, Expositor's Bible Commentary 2, ed. Frank Gaebelein (Grand Rapids, Mich.: Zondervan, 1990), p. 21.

{2} See, e.g., Prov. 8.27-9; cf. Ps. 104.5-9; also Is. 44.24; 45.18, 24; Ps. 33.9; 90.2; Jn. 1.1-3; Rom. 4.17; 11.36; I Cor. 8.6; Col. 1.16, 17; Heb. 1.2-3; 11.3; Rev. 4.11.

{3} E.g., II Maccabees 7.28; IQS 3.15; Joseph and Aseneth 12.1-3; II Enoch 25.1ff; 26.1; Odes of Solomon 16.18-19; II Baruch 21.4. For discussion, see Paul Copan, "Is *Creatio ex nihilo* a Post-biblical Invention?": an Examination of Gerhard May's Proposal," *Trinity Journal* 17 (1996): 77-93.

{4} *Creatio ex nihilo* is affirmed in the *Shepherd of Hermas* 1.6; 26.1 and the *Apostolic Constitutions* 8.12.6,8; and by Tatian *Oratio ad graecos* 5.3; cf.4.1ff; 12.1; Theophilus *Ad Autolyicum* 1.4; 2.4, 10, 13; and Irenaeus *Adversus haeresis* 3.10.3. For discussion, see Gerhard May, *Creatio ex nihilo: The Doctrine of "Creation out of Nothing" in Early Christian Thought*, trans. A. S. Worrall (Edinburgh: T. & T. Clark, 1994); cf. Copan's review article in note 3.

{5} See Richard Sorabji, *Time, Creation and the Continuum* (Ithaca, N.Y.: Cornell University Press, 1983), pp. 193-252; H. A. Wolfson, "Patristic Arguments against the Eternity of the World," *Harvard Theological Review* 59 (1966): 354-367; idem, *The Philosophy of the Kalam* (Cambridge, Mass.: Harvard University Press, 1976); H. A. Davidson, *Proofs for Eternity, Creation and the Existence of God in Medieval Islamic and Jewish Philosophy* (New York: Oxford University Press, 1987); Richard C. Dales, *Medieval Discussions of the Eternity of the World*, Studies in Intellectual History 18 (Leiden: E. J. Brill, 1990).

{6} Thomas Aquinas *Summa theologiae* 1a.2.3; Idem *Summa contra gentiles* 2.16; 32-38; cf. idem *Summa theologiae* 1a.45.1; 1a.4b.2. Though Aquinas discusses divine conservation, he does not differentiate it from creation (Idem *Summa contra gentiles* 3.65; *Summa theologiae* 1a.104.1).

{7} Philip L. Quinn, "Divine Conservation, Continuous Creation, and Human Action," in *The Existence and Nature of God*, ed. Alfred J. Freddoso (Notre Dame, Ind.: University of Notre Dame Press, 1983), pp. 55-79. See also idem, "Creation, Conservation, and the Big Bang," in *Philosophical Problems of the Internal and External Worlds*, ed. John Earman, Allen I. Janis, Gerald J. Massey, and Nicholas Rescher (Pittsburgh: University of Pittsburgh Press, 1993), pp. 589-612; idem, "Divine Conservation, Secondary Causes, and Occasionalism," in *Divine and Human Action*, ed. Thomas V. Morris (Ithaca, N.Y.: Cornell University Press, 1988), pp. 50-73.

{8} John Duns Scotus, *God and Creatures*, trans. E. Alluntis and A. Wolter (Princeton: Princeton University Press, 1975), p. 276.

{9} As noted by Alfred J. Freddoso, "Medieval Aristotelianism and the Case against Secondary Causation in Nature," in *Divine and Human Action*, p. 79. For the scholastics causation is a relation between substances (agents) who act upon other substances (patients) to bring about states of affairs (effects). *Creatio ex nihilo* is atypical because in that case no patient is acted upon.

{10} To analyze God's conservation of *e*, along Quinn's lines, as God's re-creation of *e* anew at each instant of *e*'s existence is to run the risk of falling into the radical occasionalism of certain medieval Islamic theologians, who, out of their desire to make God not only the creator of the world, but also its ground of being, denied that the constituent atoms of things endure from one instant to another but are rather created in new states of being by God at every successive instant. There are actually two forms of occasionalism threatening Quinn: (1) the occasionalism implied by a literal *creatio continuans* according to which similar, but numerically distinct, individuals are created at each successive instant, and (2) the occasionalism which affirms diachronic individual identity, but denies the reality of *transeunt* secondary causation.

{11} On A- versus B-Theories of time: see Richard Gale, "The Static versus the Dynamic Temporal: Introduction," in *The Philosophy of Time*, ed. Richard M. Gale (New Jersey: Humanities Press, 1968), pp. 65-85.

{12} Wolfhart Pannenberg, "Theological Questions to Scientists," in *The Sciences and Theology in the Twentieth Century*, ed. A. R. Peacocke, Oxford International Symposia (Stocksfield, England: Oriel Press, 1981), p. 12.

{13} According to Schleiermacher, the original expression of the relation of the world to God, that of absolute dependence, was divided by the Church into two propositions: that the world was created and that the world is sustained. But there is no reason, he asserts, to retain this distinction, since it is linked to the Mosaic account of creation, which is the product of a mythological age. The questions of whether it is possible or necessary to conceive of God as existing apart from created things is a matter of indifference, since it has no bearing on the feeling of absolute dependence on God (F. D. E. Schleiermacher, *The Christian Faith*, 2d ed., ed. H. R. MacIntosh and J. S. Stewart [Edinburgh: T. & T. Clark, 1928], 36.1, 2; 41; pp. 142-143, 155).

{14} Good examples of such timorousness include Langdon Gilkey, *Maker of Heaven and Earth* (Garden City, N.Y.: Doubleday, 1959), pp. 310-315; Ian Barbour, *Issues in Science and Religion* (New York: Harper & Row, 1966), p. 383-385; Arthur Peacocke, *Creation and the World of Science* (Oxford: Clarendon Press, 1979), pp. 78-79.

{15} Pannenberg, "Questions," p. 12; Ted Peters, "On Creating the Cosmos," in *Physics, Philosophy, and Theology: a Common Quest for Understanding*, ed. R. Russell, W. Stoeger, and G. Coyne (Vatican City: Vatican Observatory, 1988), p. 291; Robert J. Russell, "Finite Creation without a Beginning: the Doctrine of Creation in Relation to Big Bang and Quantum Cosmologies," in *Quantum Cosmology and the Laws of Nature*, ed. R. J. Russell, N. Murphy, and C. J. Isham (Vatican City: Vatican Observatory, 1993), pp. 303-310.

{16} John D. Barrow and Frank J. Tipler, *The Anthropic Cosmological Principle* (Oxford: Clarendon Press, 1986), p. 442.

{17} See William Lane Craig and Quentin Smith, *Theism, Atheism, and Big Bang Cosmology* (Oxford: Clarendon Press, 1993) for discussion.

{18} In the case of quantum mechanics, for example, "the state vector in the Schrödinger equation is not a physical magnitude, for it is an imaginary function and such functions do not represent real physical magnitudes" (C. Liu, "The Arrow of Time in Quantum Gravity," *Philosophy of Science* 60 [1993]: 622). Liu contends that in the mature theory of quantum gravity a fundamental arrow of time will obtain.

{19} Hartle-Hawking's use of imaginary numbers for the time variable allows one to redescribe a universe with an initial cosmological singularity in such a way that that point appears as a non-singular point on a curved hyper-surface. Such a re-description suppresses and also literally spatializes time, which makes evident the purely instrumental character of the model. Such a model could be of great utility to science, but it would not, as Hawking boldly asserts (Stephen Hawking, *A Brief History of Time* [New York: Bantam Books, 1988], pp. 140-141), eliminate the need for a Creator.

{20} See the interesting lecture by C. Rovelli, "What Does Present Day's [*sic*] Physics Tell Us about Time and Space?" Lecture presented at the 1993-94 Annual Series of Lectures of the Center for Philosophy of Science of the University of Pittsburgh, September 17, 1993, p. 17, where he lists eight properties of time as characterized in natural language and compares the concepts of time found in thermodynamics, STR, GTR, and so forth; time as it is defined in quantum gravity has *none* of the properties usually associated with time.

{21} M.-T. Liske, "Kann Gott reale Beziehungen zu den Geschöpfen haben?" *Theologie und Philosophie* 68 (1993): 224.

{22} The difficulty may be formulated as follows:

1. If God delays creating at  $t$  until  $t'$ , He has good reason to do so.
2. If God existed from eternity past until creating at  $t'$ , He delayed creating at  $t$ .
3. God can have no good reason to do so.
4. \ God did not delay creating at  $t$  until  $t'$ .
5. \ God has not existed from eternity past until creating at  $t'$ .

{23} Such a view would not preclude the existence of time during hiatuses within the series of events, such as are envisioned by Sidney Shoemaker, "Time Without Change," *The Journal of Philosophy* 66 (1969): 363-381.

{24} Thomas Aquinas *De potentia Dei* 3. 1, 2.

{25} Keith Ward, *Rational Theology and the Creativity of God* (Oxford: Basil Blackwell, 1982), p. 86.

{26} D. A. Carson, *Divine Sovereignty and Human Responsibility: Biblical Perspectives in Tension*, New Foundations Theological Library (Atlanta: John Knox, 1981), pp. 24-35.

{27} Carson, *Sovereignty and Responsibility*, pp. 18-22. One should mention also the striking passages which speak of God's repenting in reaction to a change in human behavior (e.g., Gen. 6.6; 1 Sam. 15.11, 35).

{28} See Luis Molina, *On Divine Foreknowledge: Part IV of the "Concordia,"* trans. with Introduction and Notes by Alfred J. Freddoso (Ithaca, N.Y.: Cornell University Press, 1988); also William Lane Craig, *The Problem of Divine Foreknowledge and Future Contingents from Aristotle to Suarez*, Studies in Intellectual History 7 (Leiden: E. J. Brill, 1988), chaps. 7, 8.

{29} Molina explains,

" . . . all *good* things, whether produced by causes acting from a necessity of nature or by free causes, depend upon divine predetermination . . . and providence in such a way that each is *specifically intended* by God though His predetermination and providence, whereas the *evil* acts of the created will are subject as well to divine predetermination and providence to the extent that the causes from which they emanate and the general concurrence on God's part required to elicit them are granted through divine predetermination and providence--though not in order that *these particular acts* should emanate from them, but rather in order that *other, far different, acts* might come to be, and in order that the innate freedom of the things endowed with a will might be preserved for their maximum benefit; in addition evil acts are subject to that same divine predetermination and providence to the extent that they cannot exist in particular unless God by His providence *permits them in particular* in the service of some greater good. It clearly follows from the above that all things without exception are *individually* subject to God's will and providence, which intend certain of them *as particulars* and permit the rest *as particulars*. Thus, the leaf hanging from the tree does not fall, nor does either of the two sparrows sold for a farthing fall to the ground, nor does anything else whatever happen without God's providence and will either *intending it as a particular* or *permitting it as a particular*" (Molina *On Divine Foreknowledge* 4. 53. 3. 17).

On the way in which sins contribute to the eventual realization of God's purposes, see the powerful statement in *On Divine Foreknowledge* 4. 53. 2. 15.

{30} Alvin Plantinga, "Reply to Robert Adams," in *Alvin Plantinga*, ed. James E. Tomberlin and Peter Van Inwagen, Profiles 5 (Dordrecht: D. Reidel, 1985), pp. 371-82; Jonathan L. Kvanvig, *The Possibility of an All-Knowing God* (New York: St. Martin's, 1986), pp. 121-148; Alfred J. Freddoso, "Introduction," in *On Divine Foreknowledge*, pp. 68-78; Edward J. Wierenga, *The Nature of God: an Inquiry into Divine Attributes* (Ithaca, N. Y.: Cornell University Press, 1989), pp. 150-160; William Lane Craig, *Divine Foreknowledge and Human Freedom*, Brill's Studies in Intellectual History 19 (Leiden: E. J. Brill, 1990), pp. 247-269; Thomas Flint, "Hasker's *God, Time, and Knowledge*," *Philosophical Studies* 60 (1990): 103-115; William Lane Craig, "Hasker on Divine Knowledge," *Philosophical Studies* 67 (1992): 89-110.

{31} Hasker does attempt to re-defend his controversial premiss in William Hasker, "Middle Knowledge: a Refutation Revisited," *Faith and Philosophy* 12 (1995): 224-225; but his account fails to respond to any of the three objections advanced in Craig, "Hasker on Divine Knowledge," pp. 106-107, and in the end he himself concedes that ". . . the complexity of the argument . . . leaves a number of points at which doubts can arise and toward which critics can direct their fire" (Hasker, "Refutation Revisited," p. 226), so that he chooses to adopt Adams's alternative formulation.

{32} Robert Merrihew Adams, "An Anti-Molinist Argument," in *Philosophical Perspectives*, vol. 5: *Philosophy of Religion*, ed. James E. Tomberlin (Atascadero, Calif.: Ridgeway Publishing, 1991), p. 356.

{33} Adams had argued, "My thisness, and singular propositions about me, cannot have pre-existed me because if they had, it would have been possible for them to have existed even if I had never existed, and that is not possible" (Robert Merrihew Adams, "Time and Thisness," *Midwest Studies in Philosophy* 11 (1986): 317). This argument is parallel to the interpretation under discussion, counterfactuals of creaturely freedom and divine middle knowledge taking the place of thisnesses and singular propositions. As Kvanvig discerns, this reasoning is susceptible to the same response as is the argument for fatalism (Jonathan L. Kvanvig, "Adams on Actualism and Presentism," *Philosophy and Phenomenological Research* 50 (1989): \*\*\*.

{34} Thomas P. Flint, "The Problem of Divine Freedom," *American Philosophical Quarterly* 20 (1983): 255-264.

{35} Adams, "Anti-Molinist Argument." p. 345.

{36} See further my *Divine Foreknowledge and Human Freedom*, pp. 259-262.

{37} Alvin Plantinga, "Reply to Robert Adams," p. 376.

{38} William Hasker, "Explanatory Priority: Transitive and Unequivocal, A Reply to William Craig," *Philosophy and Phenomenological Research* 57 (1997): 3.

{39} Ibid.

{40} He writes, ". . . (12) expresses a . . . distinctively incompatibilist intuition, that the explanatory antecedents of the totality of my choosing and doing, must leave the omission of the free action 'open,' at least in the sense of not being strictly inconsistent with the omission" (Adams, "Anti-Molinist Argument," p. 352).

{41} Thomas P. Flint, "Middle Knowledge and the Doctrine of Infallibility," in *Philosophy of Religion*, pp. 385-390.

{42} Hasker, "Explanatory Priority," p. 1. The article referenced is Hasker, "Refutation Revisited," pp. 223-236.

{43} Hasker revises the first part of his argument in deference to Adams's version, but the second part he leaves unchanged and undefended--indeed, in footnote 17 on p. 235 he actually commends Adams's (12) as an alternative to his argument for those "who have qualms about some of the premises in my version of the argument."

{44} It is very often said by biblical scholars anxious not to be associated with a defunct evidential apologetic use of miracles that biblical miracles function as signs, not evidence. This, however, is a false dichotomy; it is precisely because of their evidential force that miracles serve effectively as signs (see William Lane Craig, review article of *Miracles and the Critical Mind*, by Colin Brown, *Journal of the Evangelical Theological Society* 27 [1985]: 473-483).

{45} Marie François Arrouet de Voltaire, *Dictionnaire philosophique* (Paris: Garnier, 1967) s.v. "Miracles".

{46} For discussion see Stephen S. Bilinskyji, "God, Nature, and the Concept of Miracle" (Ph.D. dissertation, University of Notre Dame, 1982); Alfred J. Freddoso, "The Necessity of Nature," *Midwest Studies in Philosophy* 11 (1986): 215-242.

{47} R. G. Swinburne, "Miracles," *Philosophical Quarterly* 18 (1968): 321.

{48} *Ibid.*, p. 323.

{49} Wolfhart Pannenberg, *Jesus--God and Man*, trans. L. L. Wilkins and D. A. Priebe (London: SCM, 1968), p. 67.

{50} David Hume, *An Enquiry concerning Human Understanding*, ed. L. A. Selby-Bigge, 3d ed. rev. P. H. Nidditch (Oxford: Clarendon Press, 1975), chap. 10.

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