What Does It Mean to Say that God Acts in Our World?

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It won't surprise you to hear that Christians have traditionally understood God's relationship with the world, whether as its creator, providential guide, or salvific goal, as a very *active* relationship. Within the Bible, there are numerous accounts of what are often called "the mighty acts of God": the accounts of creation in the opening chapters of the Book of Genesis, the narrative of the exodus of the Israelites from Egypt (when God sent plagues upon the Egyptians, led the Israelites to safety by cleaving a path through the Red Sea, and then cared for them in their desert wanderings by making water flow forth from rock and raining manna upon the people for their food), and—for Christians the divine act *par excellence*—the sending of God's Son, Jesus Christ, as savior of the world. Many of the Psalms go into great detail about God's deeds, whether acts on behalf of the nation as a whole or ones for individuals in distress (such as Ps. 107), leading the Psalmist to exclaim at one point: "How manifold are your works, O Lord! In wisdom you have wrought them all" (Ps. 104:24). Of course, believers do not hold that God's deeds were limited to biblical times. Countless prayers seeking God's aid are offered daily by people all over the world, while one of the basic assumptions of the widespread practice of spiritual direction is that persons can be helped to become more and more aware of ways in which God is at work in their lives. It would not be an exaggeration to claim that in all of the major theistic traditions, God is firmly believed to be *a God who acts*.

For many centuries this belief was generally unproblematic. Even today it is at the very center of the thought of some of the world's leading theologians. The prominent German

theologian Wolfhart Pannenberg, reflecting on some of the major influences on his own thought, once singled out the work of the Old Testament scholar Gerhard von Rad for this very reason. Von Rad, he said, “was able to speak of the stories of the Old Testament as if they were about real life—much more real than the secular life that we experience otherwise…. His thesis, that God is acting with Israel and with all humanity in history and that history is constituted by the acts of God, has influenced me more than any other thing that I learned as a student.”[1] On the other hand, another prominent theologian, the late Langdon Gilkey, pointed out some years ago that other scripture scholars of our time were not nearly so clear about what God did in and for ancient Israel. Gilkey noted that if one had asked a pre-modern theologian like John Calvin what he believed God did at the Exodus of the Israelites from Egypt, the answer would have been clear. Calvin would have said, “Look at the Book of Exodus and see what it says that God did.” Indeed, when you read Calvin’s commentary on that part of the Bible, you see that he recounts God’s deeds as having occurred just as they are described in the scriptural text.

How different, remarked Gilkey, is what many scripture scholars of the past fifty years say (or do not say) in reply to the question: “What did God actually do in the Exodus-Sinai event?” He found the answer of scholars like G. Ernest Wright and Bernhard Anderson “extremely elusive to discover,” for they assert “that outwardly the event was indistinguishable from other events, revelation to the Hebrews always being dependent on faith,” and they also claim “that probably there was a perfectly natural explanation of the objective side of the event,” such as a strong east wind driving back shallow waters in a marshy area and so allowing the Israelites to walk across to freedom, whereas the chariot wheels of their Egyptian pursuers became clogged in the mud.[2]

Gilkey was not castigating these authors for their reticence to say what God actually did, for modern science has so imbued the Western mind with a keen sense of an unbroken and unbreakable causal nexus in space and time that "modern theologians and scholars … can scarcely do anything else."[3] Nevertheless, this reluctance or inability to say anything very definite about God's activity does raise major issues for members of theistic religious traditions. In the words of the philosopher of religion Dennis Bielfeldt, "Of what use is a God who cannot really change the course of history or nature, who does not causally explain the existence of life or the universe, or who cannot be causally effective in the process of redemption?"[4] The issue is not merely one of asking whether God could "unmake the laws of nature" by intervening on special occasions to bring about certain divinely willed results. One must also bear in mind that any change in the natural world necessarily involves an input of physical energy, and this raises the question of how a spiritual, un-embodied reality could bring about such an effect in our space-time continuum. Philip Clayton, one of the leading figures in our contemporary dialogue between science and religion, has framed the problem in the following way: "If a spiritual agent gives rise to a physical effect, it has brought about physical change without a physical cause or the expenditure of physical energy, and this fractures the natural order in a way that would make science impossible."[5] Many people can no doubt shrug off this kind of issue simply by contending that anything is possible for an all-powerful God, but theologians and philosophers who have pondered the matter are keenly aware of the profundity of the questions involved. The British scholar Nicholas T. Saunders, author of the book *Divine Action and Modern Science*,[6] has gone so far as to say that "of all the challenges science has raised for theology, perhaps the most fundamental is that it has brought into question the doctrine of divine action."[7] Four decades earlier, one of the most influential writers on the topic, William Pollard, expressed the problem

in the following words: "I found extraordinary difficulty, when I thought about events in scientific terms, in imagining any kind of loophole through which God could influence them."[8] The purpose of my talk this evening is to describe some of the major ways in which theologians have dealt with this challenge and to suggest what seems to me the most satisfactory response.

Some Ways of Approaching the Issue of Divine Action

One obvious way out of the difficulty is simply to abandon talk of God's directly acting in the world. One need not be an atheist to adopt this approach, for it also characterized the Christian existentialism of Rudolf Bultmann, whose 1941 essay "New Testament and Mythology" became very influential and has often been anthologized.[9] The key to his solution to the problem was to draw a sharp distinction between the kind of knowledge available to us through scientific endeavor and the kind made available through Christian faith. For Bultmann, the Judeo-Christian scriptures are not to be understood as giving anything like an objective world picture but rather as showing how we humans are to understand ourselves in our world. By this move, "Bultmann reinterpreted all talk of God's action in particular events in terms of the way in which they open up new possibilities for understanding human existence when perceived with the eyes of faith. God's action is confined to the inner level of personal address and existential challenge rather than to the external level of factual explanation."[10] This limitation on God's action to "the inner level of personal address" may indeed be considered preferable to an atheistic denial of all such action and even to the deistic position of claiming that God set everything in motion "at the beginning of time" but has not been active in the subsequent evolution of the universe or in the events of history, but Bultmann's approach so severely curtails the scope of divine action that many theologians have sought alternative understandings. The

latter have at times arisen precisely out of an awareness of scientific findings that were unavailable to Bultmann, whose strictly deterministic view of the natural world is no longer considered viable by many scientists. I will therefore next look at three prominent alternatives to that deterministic approach: top-down or downward causality (also known as "whole-part influence"), bottom-up causality (relying in large part on quantum theory), and primary-secondary causality.

The term "downward causation" was first used several decades ago by the American social scientist Donald Campbell and was adopted by the late biochemist and theologian Arthur Peacocke to elucidate the question of how God acts in the world.[11] Whereas the notion of causality in science has usually been described in terms of the "bottom-up" effect of a system's constituent units on the properties and behavior of the system as a whole, it is nowadays more and more clearly seen that the decisive factors in a system's behavior may move in the other direction as well. Noting that in certain chemical-reaction systems "thousands of molecules in a particular region at a particular time suddenly change to another form," Peacocke wrote in the early 1990s that these changes at the micro-level of molecular organization "are what they are *because* of their incorporation into the system as a whole, which is exerting specific constraints on its units, making them behave otherwise than they would in isolation."[12] Subsequently, Peacocke came to prefer the term "whole-part influence" to describe the effects on the constituent parts when they are incorporated into systems of this kind, as when certain reaction systems spontaneously display rhythmic and spatial patterns whose forms can even depend on the very size of the vessel that contains them.[13] In his theological writings, Peacocke suggested that this kind of "downward" influence in the world of chemistry or biology can also illuminate an understanding of how God acts upon the natural world. Peacocke argued that if we

consistently stress that all created things are truly *in* God—a position which Christian theology can readily support on the basis of such scriptural texts as Paul's quoting to the Athenians the poetic verse that "in him [God] we live and move and have our being" (Acts 17:28)—then it would not be unreasonable to look upon God as the "System-of-systems," the overarching context of all reality. As such, and precisely because the world is "in God," God could have a genuine influence on inner-worldly patterns and behaviors just as, analogously, a containing vessel can affect the patterns and behaviors of the units within it.

To be sure, Peacocke never claimed that this explains exactly how God can bring about events in the natural world. As he wrote, since "God's own Being is distinct from anything we can possibly know in the world, then God's nature is ineffable and will always be inaccessible to us, so that we have only the resources of analogy to depict *how* God might influence events."[14] Still, that Oxford scientist-theologian believed that his approach, based on an analogy drawn from observable scientific phenomena, can help elucidate traditional religious convictions about God's action in the world without requiring divine interventions that would violate that causal nexus whose existence is a basic assumption of modern science.

Without denying the value of Peacocke's approach, which was also adopted with some modifications by Philip Clayton in his book *God and Contemporary Science*,[15] other authors place more emphasis on the opposite end of the causal spectrum by speculating that God could affect even the smallest constituent parts of the universe in such a way as to eventually effect changes on the macro-level. One of the most attractive options for these authors is found in quantum theory, which—according to many scientists—shows that the subatomic world is essentially indeterministic: micro-particles do have their distinguishing characteristics, but it is not possible to predict just when they will do whatever they do.[16] This degree of uncertainty

seems to provide an intrinsic opening for God to act within the limits of quantum uncertainty without violating any physical laws. Two scholars—the South African cosmologist George Ellis and the American theologian Nancey Murphy—have written extensively on this, at times in collaboration with one another.[17] One of Ellis's main concerns focuses on a particular kind of purported divine action, namely, how God might communicate images of God's own reality or of the underlying purpose of the universe to human beings through some kind of revelation. Since quantum theory does not (and apparently cannot) predict the result of any particular physical event, Ellis suggests that God could provide specific images to individuals or could stimulate specific memories that already exist in someone's memory "by controlling the specific energy exchanges between particular excited states in the brain, without violating quantum mechanics in any way."[18]

Murphy makes a similar suggestion by proposing that God could affect human consciousness "by stimulation of neurons [in the brain]…. Such stimulation would cause thoughts to be recalled to mind; presumably it could cause the occurrence of new thoughts by coordinated stimulation of several ideas, concepts, or images stored in memory."[19] She suggests that the concatenation of such phenomena is what constitutes revelation. Despite their similarity on this point, Ellis and Murphy do diverge on how extensive this kind of divine influence may be. Ellis proposes that God has voluntarily limited divine activity in this world to three kinds of action: the initial creation of the universe and the setting of its initial conditions; the unique event of the manifestation of God's nature through the life of Christ; and direct actions by way of mental interventions, as just mentioned. Accordingly, he rules out other kinds of action on God's part, such as preventing some natural disaster in answer to prayer.[20] Murphy, on the other hand, does not accept such limits. Since the behavior of macro-level objects is largely

determined by the behavior of their smallest constituents, God's capacity to act on the former must include the ability to act on the latter. While one could, with Ellis, argue that the latter kind of action is restricted to certain kinds of events, Murphy disagrees. The majority view within the Christian tradition has been that God acts in *all* things at *all* times, and she makes this view part of her own approach. God is accordingly a participant not only "in *every* (macro-level) event" but also in countless quantum-level events, for God's participation in the former "is *by means of* his governance of the quantum events that *constitute* each macro-level event."[21] Rather than hold, with some scientists, that the "when" of quantum events is completely random, Murphy contends that "the better option is divine determination."[22] Considering that a single cubic centimeter of water is composed of 3.34×10^{22} molecules (and of even more atoms and subatomic particles) and that the number of neurons in a human brain is far larger than that, it is easy to see why her position has been called "very robust,"[23] and "a bold systematic attempt to develop a coherent theology of divine action."[24]

The positions I have described thus far—the top-down proposals of Peacocke and Clayton and the bottom-up ones of Ellis and Murphy—very consciously and with considerable expertise rely on various findings of modern science, such as the effect of systems as a whole on their constituent parts (as in certain chemical or biological events) or the influence of quantum-level events on the macro-world. The third general position that I will describe—that of primary-secondary causality—is less bound to specific scientific observations and more closely related to an older philosophical tradition, but its contemporary adherents nevertheless find it most valuable for considering divine action in a modern context. Like the other two positions, it grants a considerable degree of autonomy to the natural order, though without necessarily ruling out the possibility of occasional divine interventions of a miraculous sort. As classically

expounded by St. Thomas Aquinas, this position holds that God, as the ultimate cause of the natural order, confers upon things their form, movement, and efficacy and, *in this sense*, is the primary cause of every event. This efficacy or power is, on the other hand, truly given to things, and because it belongs to them, they, as secondary causes, can rightly be said to perform their operations.

When treating this matter in his *Summa Contra Gentiles*, Aquinas acknowledged that some people find it difficult to understand how natural effects can be attributed to both God and a natural agent, since it seems contradictory at first hearing to say that one and the same action proceeds from two agents. He replies that this objection is easily resolved once it is understood that in every agent two points are to be considered: the thing itself that acts and the power by which it acts. In his words, "The power of a lower agent depends on the power of a superior agent, according as the superior agent gives this power to the lower agent whereby it may act." Therefore, "it is not inappropriate for the same effect to be produced by a lower agent and by God: by both immediately, though in different ways (*ab utroque immediate, licet alio et alio modo*)."[25] This means that it is not a matter of an action being done partly by God and partly by a natural agent; rather, the action is done wholly by both, though in different respects.[26]

Moreover, the fact that God thereby works in and through secondary causes is not to be understood as a deficiency on God's part but rather as a sign of the divine goodness. As the philosopher Etienne Gilson once phrased it, "The universe, as represented by St. Thomas, is not a mass of inert bodies passively moved by a force which passes through them but a collection of active beings each enjoying the efficacy delegated to it by God along with actual being."[27] Even though Aquinas formulated this position centuries before the rise of current issues about divine action in the world, those who have today adopted his position consider it to be one of great

merit. The Fordham University theologian Elizabeth Johnson has gone so far as to claim that Aquinas's understanding of the relationship between God and the world "accommodates evolutionary science with almost surprising ease. For the basic principle remains the same: God's providential guidance is accomplished in and through the free working of secondary causes."[28] I will next evaluate this as well as the other two approaches that I described earlier.

An Evaluation of the Three Alternative Approaches

I want to emphasize at the very beginning of this part of my presentation that I fully agree with Peacocke's assertion that since God's nature is ineffable, we have only the resources of analogy when considering how God might influence events. This theme of the incomprehensibility of God's nature (which is *not* the same as saying that we can have no valid knowledge of God at all) has a long pedigree in Christian theology and must be kept in mind as we examine the various analogies to which I have already referred. To say that a comparison or analogy limps is not to render it valueless. However, it is also incumbent on theologians to seek the best analogies possible and to state why some are preferable to others, as I shall do in what follows.

Peacocke and Clayton both emphasize the interrelationship between their proposals and a doctrine of *panentheism*, the position that the created order, "the world," is within the all-encompassing God and yet distinct from God (this last point being the key difference between pan***en***theism and pantheism). This seems especially crucial for Peacocke's way of arguing for a whole-part influence, analogous to the way the behavior of the constituent parts of certain systems are affected by the characteristics of the system itself. In the natural order, it is certainly valid to speak of the influence of the whole on the individual parts, and in this respect it is

reasonable for Peacocke to draw a comparison between this and the way an all-embracing God may influence beings or events in the created order. There are, however, weaknesses with this analogy as well. For one thing, the physical phenomena to which he refers are characterized by having ***all*** of the constituent parts affected ***in the same way*** by the system as a whole, whereas a viable doctrine of divine action would certainly want to allow for diverse effects on the individuals concerned. Another problematic question was raised by Clayton in his generally sympathetic analysis of Peacocke's proposal, for he asks how significant God's guidance could be if it comes to individuals in a highly mediated fashion, that is, in a top-down hierarchy "proceeding from the universe-as-a-whole, down through … galaxies to our individual planet, and then through the history of biological evolution and countless billions of genetic mutations to one person existing today?"[29] In other words, the proposal seems to imply a very weak or attenuated kind of influence, not what one generally expects from a doctrine of divine action.

In my opinion, the limitations of the analogies advocated by Peacocke and Clayton are minimal compared to those advanced by the bottom-up proposals of Ellis and Murphy. Both of the latter suggest that God could cause certain thoughts to arise in our minds by the stimulation of particular neurons in the brain. While Ellis's proposal excludes other forms of divine action (apart from the initial creation of the universe and what Christian faith considers the unique event of the manifestation of God's nature in Jesus Christ), Murphy goes much further, proposing "divine determination" of ***every*** macro-level event by way of God's "governance" of the micro-level quantum events that constitute the event. This could be considered a "safe" proposal in the sense that there seems to be no way of proving that divine action does not occur at this level. For a proposal to be truly successful, however, it surely has to be seen as plausible, not merely "possible" and unable to be disproven. Given the fact that billions and billions of

quantum events take place every few seconds within a single person's brain or within a cubic centimeter of any material object, the analogy seems to require that God be envisioned as some kind of micro-managing ultra-supercomputer, literally "governing" or "determining" an unfathomable number of events on the smallest conceivable scale throughout the entire universe. I submit that this is not a plausible way of understanding what the best of the Christian tradition has meant by God's omnipotence and omniscience. We cannot, of course, speak of divine knowledge and power except on the basis of some analogy with the human instantiation of these traits, always recognizing that the divine instantiation transcends the human. Nevertheless, it is worth noting that we would not consider a human being admirably knowledgeable if he or she knew all sorts of minutiae about the world in which we live, such as how many words (or atomic particles) there are in a certain book. Similarly, we would not admire the "power" of a civil or religious leader who was in complete control of the most minute workings of every aspect of his or her organization, as distinct from someone who delegated tasks to others at a more appropriate level. This is a major reason why I find the notion of a micro-managing deity unsatisfactory.

The final proposal to be evaluated is that of primary-secondary causality. As already noted, Aquinas recognized that it may appear contradictory to speak of two different agents as causes of one and the same effect. Even though he answered this objection to his own satisfaction, not everyone agrees. The British scientist-theologian John Polkinghorne has criticized this theory as "theological doublespeak,"[30] while David Ray Griffin objects that this approach assumes the *sufficiency* of each cause and argues that the idea of two sufficient causes for one event is unacceptable.[31] However, I do not find these objections convincing. It does not seem "doublespeak" to acknowledge that divine causality and that of a natural agent exert their causality in different respects (Aquinas's *alio et alio modo*), and if this is so, then there seems to

be no need even to regard them in terms of necessary and/or sufficient causality. To be sure, neither Aquinas nor any of his modern followers contend that this understanding of causality does away with the need to affirm the mysteriousness of God's reality and activity, but Elizabeth Johnson is surely correct in emphasizing that this approach has the distinct advantage of avoiding any notion that God is "simply a bigger and better secondary cause. [Rather,] the distinction between primary and secondary causality enables thought to hold firm to the mystery of the Godness of God and the integrity of creatures, seeing both acting in a unique *concursus*."[32] Like the proposals of Ellis and Murphy, this one, too, could be called "safe" inasmuch as one could not rightly be challenged to detect the divine primary cause by empirical methods, for according to this theory there are no "pure secondary causes" that would make possible a "control experiment" allowing us to see what difference the added ingredient of divine primary causality would make.[33] This is not a drawback to the approach, however, since relatively few thinkers today would even want to argue that particular divine actions are discernible *as such* by the empirical methods of natural science.

In general, this approach of Aquinas, Johnson, and others seems to me more satisfactory than those of the authors described earlier. It fully acknowledges the agency of secondary causes, which can be examined by the methodologically naturalistic procedures of natural science without in any way impugning the primary causality of God as accepted on faith by religious believers. There is, however, one final issue that must be addressed in this connection, that of the allegedly "extraordinary" activity of the miraculous. Claims of miraculous occurrences are found in religious traditions throughout the world. Within mainstream Christianity, Aquinas taught that when God chooses, God can produce effects directly, without secondary causes, and these things that God does "outside those causes which we know, are

called miracles."[34] What, then, of miracles? How are they to be understood, and what questions do they raise about divine action?

A Note on Miracles

In modern times, the notion of miracle regularly presupposes a conception of "nature" as a closed system of laws that is somehow "broken" by a direct intervention of God. Scripture scholars regularly point out there was no such presupposition in biblical times. The Israelites saw the world around them as exhibiting the constant activity of God, and the authors of the New Testament likewise show little or no understanding of nature as a systematic unity governed by fixed laws of causality. Nevertheless, certain occurrences were understood by the biblical authors to stand out from the normal course of events. The wonderful deeds worked by Jesus are normally called *dynameis* ("works of power") or *semeia* ("signs"), though there are warnings in the New Testament that one should not go about seeking such phenomena, as when Jesus answers a request from the scribes and Pharisees with the rebuke: "An evil and adulterous generation seeks for a sign, but no sign shall be given to it except the sign of the prophet Jonah" (Matt 12:39). On the other hand, there are clear affirmations, especially in the Fourth Gospel, that the signs worked by Jesus were previously unheard of and therefore manifested divine action in a special way. Thus, the account of the restoration of sight to the man born blind includes the latter's words: "Never since the world began has it been heard that anyone opened the eyes of a man born blind. If this man were not from God, he could do nothing" (Jn. 9:32-33). Even though the apologetic use of miracles became more prominent in later Church history, there was already an apologetic element in the Johannine passage quoted above and in similar ones. When the very existence of miracles came to be severely questioned in recent centuries, as in the works

of Spinoza and Hume and of more recent authors like Bertrand Russell and Richard Dawkins, Christian thinkers naturally felt obliged to respond. My present discussion of the issue will focus on the way this response has been formulated within the context of the dialogue between science and religion.

Back in the nineteenth century, Friedrich Schleiermacher considered even the most natural and common event to be miraculous as soon as the religious view of it became dominant, to such an extent that, in his words, for a truly religious person "all is miracle." This "liberal" understanding of miracle is not what is under discussion in the science-religion dialogue, but rather what the New Testament scholar John Meier has defined as "(1) an unusual, startling, or extraordinary event that is in principle perceivable by any interested and fair-minded observer, (2) an event that finds no reasonable explanation in human abilities or in other known forces that operate in our world of time and space, and (3) an event that is the result of a special act of God, doing what no human power can do."[35] The fact that such an event is, by definition, unusual means that not every single person will directly experience one even in the course of a lifetime but will have to rely on reports of others and make critical judgments about their authenticity and freedom from error. Having read accounts of miracles by authors like the Nobel Prize-winning medical doctor Alexis Carrel and the theologian Louis Monden,[36] I myself have no doubt that the first two parts of Meier's definition of miracle are reasonably verifiable, though I recognize that someone who considers miracles impossible *a priori* will question even such reports. I also recognize that the third aspect of Meier's definition—that the event is the result of a special act of God—is not open to a convincing demonstration by the methods of natural science, whose methodological naturalism prevents it from demonstrating the existence of any reality transcending the spatio-temporal order. As one scientist has written, "in all my training in

science, there was never any mention of even the possibility that anything other than natural causes should be included in scientific explanations."[37] A religious believer certainly need not be disturbed by such an avowal, which simply means that, confronted with such an event, a scientist *as such* can only say that no natural explanation seems possible, though he or she might hold out the hope that such an explanation will one day be available.

It should also be noted, however, that many scientists, and certainly all mainstream theologians, are convinced that science is not our only valid avenue to a genuine understanding of reality. In the careful studies of allegedly miraculous phenomena that I have read—especially accounts of the healing of organic diseases—the investigators found indications (though not strict proofs) that there were factors at work that were not detectable by empirical investigation. Louis Monden, for example, writes that prayer is the only invariable factor present in all of the miraculous cures that he studied. In his words, "this prayer may be full of confidence, or weakened by doubting and vacillation; it may be simple as that of a child, or virile and direct as the prayer of a grown man; hesitant upon the lips of the atheist or unbeliever, but piercing when uttered by a mother who is prepared to reap the gift of heaven by violence,"[38] but it is in any case the one constant. To claim that this somehow demonstrates God's direct activity would itself be a statement of faith, but a religious person can readily affirm this, since faith is doctrinally considered a gift and, in the words of the Christian philosopher Diogenes Allen, one must first have this gift "in order to be in a position to recognize the manifestation of divine activity in nature, history, and individual lives."[39]

It therefore ought not be at all problematic for a believing Christian (or Jew or Muslim or other theist) to admit that we cannot point to action by God with the same kind of empirical clarity that is available in a scientific laboratory, for there are ineluctable limitations on our

ability to comprehend what it would mean to be a divine agent. There is even something radically liberating about this admission, for it can free one from that hankering after signs that Jesus condemned in Matthew's Gospel. A person may be a devout believer and yet feel very uneasy when reading about the large crowds that seem regularly to converge upon the site of this or that supposedly miraculous apparition. Much more in keeping with the cautious attitude of my own Catholic tradition was the attitude of the sixteenth-century mystic and Doctor of the Church St. John of the Cross, who would refuse to join others who wanted to go to some nearby site to behold someone with allegedly miraculous powers. His own position was that if God was truly and directly at work in such a person, then good would come of it without a crowd of spectators looking on, whereas if the activity was not from God, those in attendance would only be misled and spiritually harmed. He accordingly wrote that "God is not inclined to work miracles…. [Christ] reprimanded the Pharisees because they would not give assent without signs: *If you do not see signs and wonders, you do not believe* [Jn. 4:48]…. The more the soul believes in and serves God without testimonies and signs, the more it extols God, since it believes more of him than signs and miracles can teach."[40] Relying on the miraculous can even be judged to go against what a contemporary Jewish author, Eliezer Shore, calls "the order of creation." Without at all denying the possibility and possible helpfulness of miraculous divine interventions (and a theist could hardly deny this possibility absolutely), Shore wisely advises that we should look in another direction for long-term growth: Real change, he writes, regularly comes "from below, born out of our struggles and aspirations…. Though it may be less dramatic than a miracle, the transformation it effects is permanent. Furthermore, by acknowledging those areas in our lives that need improvement and by working to repair the broken pieces of both self and world, we must, of necessity, involve everything around us in the process, and thereby refine

and uplift the world. This is not a [separate] 'moment of grace' but a complete reintegration of every aspect of life."[41] Among the aspects of life that can thereby be brought to an ever-fuller, mutual integration are precisely the disciplines of natural science and theology, and that is precisely what you are regularly trying to do with your WesleyNexus website and the various events and programs that you sponsor. I am happy to have been part of your endeavor this evening.

Notes

[1] Wolfhart Pannenberg, "Confessions of a Trinitarian Evolutionist: Thomas Jay Oord's Interview with Wolfhart Pannenberg—Part One." Metaviews, ID 3136. 19 May 2001. Viewed on same date. <http://www.metanexus.net>.

[2] Langdon Gilkey, "Cosmology, Ontology, and Biblical Language," *Journal of Religion* 41 (1961):199.

[3] Ibid., 195.

[4] Dennis Bielfeldt, "Can Western Monotheism Avoid Substance Dualism?" *Zygon* 36 (2001):155.

[5] Philip Clayton, "Neuroscience, the Person, and God: An Emergentist Account," in *Neuroscience and the Person: Scientific Perspectives on Divine Action*, ed. Robert John Russell et al. (Vatican City State: Vatican Observatory Publications; Berkeley, Calif.: Center for Theology and the Natural Sciences, 1999), 209.

[6] Cambridge University Press, 2003.

[7] Nicholas T. Saunders, "Does God Cheat at Dice? Divine Action and Quantum Possibilities." *Zygon* 35 (2000):518.

[8] William G. Pollard, *Chance and Providence: God's Action in a World Governed by Scientific Law* (London: Faber and Faber, 1958), 12.

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[9] It may be found, e.g., in *Keygma and Myth*, ed. Hans Werner Bartsch (New York: Harper, Torchbooks, 1961), 1-44.

[10] Paul D. Murray, "Truth and Reason in Science and Theology," chapter 2 of *God, Humanity, and the Cosmos*, ed. Christopher Southgate et al. (Harrisburg, Pa.: Trinity Press International, 1999), 55.

[11] See Donald T. Campbell, "'Downward Causation' in Hierarchically Organized Systems," in *Studies in the Philosophy of Biology: Reduction and Related Problems*, ed. Francisco J. Ayala and Theodosius Dobzhansky (London: Macmillan, 1974), 179-86.

[12] Arthur Peacocke, *Theology for a Scientific Age: Being and Becoming—Natural, Divine, and Human* (Minneapolis: Fortress Press, 1993), 53-54.

[13] Peacocke, "The Sound of Sheer Silence: How Does God Communicate with Humanity?" in *Neuroscience and the Person* (note 5), 221.

[14] Ibid., 235.

[15] Grand Rapids, MI: Eerdmans, 1997.

[16] A useful introduction to quantum theory is Nick Herbert's *Quantum Reality: Beyond the New Physics* (New York: Doubleday, Anchor Books, 1985).

[17] See their co-authored *On the Moral Nature of the Universe: Theology, Cosmology, and Ethics* (Minneapolis: Fortress Press, 1996).

[18] G.F.R. Ellis, "The Theology of the Anthropic Principle," in *Quantum Cosmology and the Laws of Nature: Scientific Perspectives on Divine Action*, ed. Robert John Russell et al., 2nd ed. (Vatican City State: Vatican Observatory Publications; Berkeley, Calif.: Center for Theology and the Natural Sciences, 1999), 391. Nicholas Saunders, while not at all advocating this position, explains it in the following way: Even though it seems that *we* cannot in principle know what an object described by quantum mechanics will do under every circumstance, "this indeterminism is not extended to God, who because of omniscience can see behind it and as such can control and manipulate it—achieving thereby specific aims from within the causal nexus in a way that is perfectly consonant with scientific regularity" ("Does God Cheat at Dice?" 521).

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[19] Nancey Murphy, "Divine Action in the Natural Order: Buridan's Ass and Schrödinger's Cat," in *Chaos and Complexity: Scientific Perspectives on Divine Action*, ed. Robert John Russell et al., 2nd ed. (Vatican City State: Vatican Observatory Publications; Berkeley, Calif.: The Center for Theology and the Natural Sciences, 2000), 349-50.

[20] Ellis, "The Theology of the Anthropic Principle," 392-93.

[21] Murphy, "Divine Action in the Natural Order," 343.

[22] Ibid., 341. She later writes in the same essay: "Peacocke claims that God's action at the quantum level is forestalled by the fact that particular events are as unpredictable to God as to us. My proposal evades this difficulty since by hypothesis these events are not random; they are manifestations of divine will" (355).

[23] Clayton, *God and Contemporary Science*, 218.

[24] Saunders, "Does God Cheat at Dice?" 533.

[25] Thomas Aquinas, *Summa Contra Gentiles* 3.70.5 (trans. Vernon J. Bourke in *On the Truth of the Catholic Faith*. Book Three: *Providence*, Part One [Garden City, N.Y.: Hanover House, 1956], 236).

[26] On this point, Elizabeth A. Johnson comments: "God acts wholly through and in the finite agents that also act wholly in the event." The two "operate on completely different levels (itself an inadequate analogy), one being the cause of all causes and the other participating in this power" ("Does God Play Dice? Divine Providence and Chance," *Theological Studies* 57 [1996]:12).

[27] Etienne Gilson, *The Christian Philosophy of St. Thomas Aquinas*, trans. L.K. Shook, C.S.B. (New York: Random House, 1956), 183.

[28] Johnson, "Does God Play Dice?" 14-15.

[29] Clayton, *God and Contemporary Science*, 224.

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[30] John Polkinghorne, *Science and Christian Belief: Reflections of a Bottom-up Thinker* (London: SPCK, 1994), 82. Farrer's works are *A Science of God?* (London: Geoffrey Bles, 1966) and *Faith and Speculation* (London: A. & C. Black, 1967). See also *Divine Action: Studies Inspired by the Philosophical Theology of Austin Farrer*, ed. Brian Hebblethwaite and Edward Henderson (Edinburgh: T&T Clark, 1991).

[31] See Owen Thomas, "Recent Thought on Divine Agency," in *Divine Action* (note 39), 50.

[32] Johnson, "Does God Play Dice?" 13.

[33] This point is made by Christopher Southgate, "A Test Case—Divine Action," in *God, Humanity and the Cosmos* (note 8), 255.

[34] Thomas Aquinas, *Summa Theologiae* I, q.105, a.7 (trans. English Dominicans [New York: Benziger, 1947], 1:520).

[35] John Meier, *A Marginal Jew: Rethinking the Historical Jesus*, vol. 2, *Mentor, Message, and Miracles* (New York: Doubleday, 1994), 512.

[36] Alexis Carrel, *The Voyage to Lourdes*, trans. Virgilia Peterson (New York: Harper and Brothers, 1950); Louis Monden, *Signs and Wonders: A Study of the Miraculous Element in Religion* (New York and Paris: Desclée, 1966). Carrel's book contains a detailed account of how he, a thoroughgoing religious skeptic, was utterly confounded on seeing Marie Ferrand, dying of tubercular peritonitis, suddenly cured before his very eyes. The cure did not then and there convince him, but it was the beginning of the process of his eventual religious conversion.

[37] Raymond E. Grizzle, "A Few Suggestions for the Proponents of Intelligent Design," *Perspectives on Science and Christian Faith* 47, no. 3 (September 1995):187.

[38] Monden, *Signs and Wonders*, 234.

[39] Diogenes Allen, "Faith and the Recognition of God's Activity," in *Divine Action* (note 39), 198.

[40] St. John of the Cross, *The Ascent of Mount Carmel* 3.31.9 and 3.32.3 (trans. Kieran Kavanaugh, O.C.D., and Otilio Rodriguez, O.C.D., *The Collected Works of Saint John of the Cross*, rev. ed. [Washington, D.C.: I.C.S. Publications, 1991], 327-29.

[41] Eliezer Shore, "The Milk of Miracle," *Parabola* (Winter 1997). Viewed May 28, 2001. http://www.britannica.com/magazine?ebsco_id=325962

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