

DANCING AROUND THE CAUSAL JOINT: CHALLENGING THE THEOLOGICAL TURN IN DIVINE ACTION THEORIES

by Sarah Lane Ritchie

Abstract. Recent years have seen a shift in divine action debates. Turning from noninterventionist, incompatibilist causal joint models, representatives of a “theological turn” in divine action have questioned the metaphysical assumptions of approaches seeking indeterministic aspects of nature wherein God might act. Various versions of theistic naturalism (such as Thomism, panentheistic naturalism, and pneumatological naturalism) offer specific theological frameworks that reimagine the basic God–world relationship. But do these explicitly theological approaches to divine action take scientific knowledge and methodology seriously enough? And do such approaches adequately address the problem of how uncreated, immaterial realities could affect physical, material processes? This article examines various features of the theological turn in divine action—recognizing it as a welcome step in science and religion, while challenging its current adequacy.

Keywords: divine action; laws of nature; ontology; panentheism; philosophy of science; pneumatology; theistic naturalism

Recent years have seen a significant shift in the divine action conversation. While much of the debate in recent decades has focused on the search for a specific, scientifically identifiable causal joint in which God might act, many science and religion scholars have begun to question the metaphysical assumptions inherent in this pursuit. Representatives of this “theological turn” in science and religion argue that standard causal joint proposals (involving, e.g., quantum mechanics, chaos theory, emergence, and so on) are dependent upon question-begging metaphysical commitments, which in turn inadequately frame the entire divine action conversation. These presuppositions involve basic ontological questions about the God–nature relationship, and especially the question of what, exactly, it means to be properly “natural.” These critics argue that science itself is limited insofar

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as it cannot determine the basic relationship between nature and God. The search for a causal joint is pointless, they argue, as it misconstrues the basic relationship between God and nature: there is no causal joint because nature always exists in fundamental interaction with God.

What remains to be seen, however, is whether these strictly theological approaches to divine action adequately address the causal joint problem. Do representatives of the theological turn provide a compelling, rigorous response to the question of how, exactly, a transcendent God could plausibly interact with physical processes? I suggest that while the theological turn is a welcome shift in the divine action conversation, representatives have not yet dealt squarely with the causal joint problem. In what follows, the standard divine action scene will be briefly surveyed; this is followed by an analysis of three representative theological approaches to divine action. I conclude that while these sorts of approaches to divine action are an important development in science and religion, they have not yet taken the explanatory success of science seriously enough. Nor, it is argued, have they addressed the problem of how nonphysical entities could affect seemingly explicable physical processes—at least, that is, without fundamentally reimagining the ontology of “the physical” itself.

BACKGROUND

The question of divine action has long been a central challenge for the field of science and religion. Given the extraordinary success of the natural sciences, the traditional affirmation that a transcendent God acts in the physical world has become, for many, difficult to defend. Given the observed regularities analyzed by contemporary science, it is worth questioning how an immaterial God could causally affect these physical processes without contradicting the natural order God had presumably created in the first place. One of the best ways to examine this problem of divine action is through the so-called “causal joint”: that theoretical nexus at which a nonphysical God could affect physical processes. Much of the divine action debate in recent decades has focused on the search for just such a causal joint in underdetermined aspects of the natural world. At the center of this discussion (and largely determining its trajectory and influence) is the so-called Divine Action Project (DAP), a long-term collaboration between the Center for Theology and the Natural Sciences and the Vatican Observatory. While the scholars involved varied significantly in their conclusions and perspectives, it is fair to acknowledge that the metaphysical presuppositions embraced by many in the DAP have largely shaped and influenced decades of divine action theories. Namely, scholars involved with or influenced by the DAP have emphasized what Philip Clayton calls “maximum traction”—actively seeking points of contact between science and religion,

and allowing scientific knowledge to guide divine action theories (Clayton and Simpson 2008, 54f).

As exemplified and influenced by the DAP, the standard divine action “scene” has largely been shaped (implicitly or otherwise) by three metaphysical commitments: noninterventionism, an ontological view of the laws of nature, and incompatibilism. A brief overview of these issues demonstrates how the divine action conversation has been heavily reliant on science in developing its causal joint proposals, essentially rendering science as the final arbiter of whether and how God might act in the natural world. As will be discussed below, critics of the “standard” divine action conversation often reject just these metaphysical commitments, challenging the God–world model implied in the very questions framing the debate.

Noninterventionism

For better or worse, the question of divine intervention has been the foundation of contemporary divine action debates. Does God intervene in seemingly explicable physical processes? Given science’s extraordinary efficacy in uncovering the physical mechanisms of seemingly mysterious phenomena (and indeed, this has been somewhat codified in the “causal closure of the physical” principle), the notion of intervention has gained something of a bad reputation. Divine intervention in intelligible regularities would seem to undermine the foundation of scientific inquiry; many in the field would follow Clayton in urging “the presumption of naturalism” when examining *all* events. Beyond methodological and scientific concerns about intervention, there are theological challenges as well. Put simply, theologians are often loath to affirm that God could be in competition with the ordered, regular laws of nature that God presumably created. As Taede Smedes explains, “to argue that God works against the laws of nature, or suspends them temporarily, would make the concept of God inconsistent” (2008, 243). This rejection of interventionist divine action is strikingly prevalent in the divine action conversation, and almost universally affirmed by participants in the DAP. Noninterventionist causal joint proposals involving seemingly underdetermined areas (i.e., quantum mechanics, chaos theory) are thus developed in direct response to this belief that God must not intervene in physical regularities. In other words, theorists begin by affirming the primacy of physical regularities, and then attempt to identify ontologically underdetermined gaps in which God could act without intervening.

Important to note here are the metaphysical assumptions of the non-interventionist position. Namely, noninterventionists prioritize science in their search for a causal joint (perhaps ironically). This is, thus, something of a correlationist project, in which theological affirmations are subjected to the scrutiny of current scientific knowledge; this essentially renders the

natural sciences as “objective arbiters of the way things really are” (Smith 2008, 885). There is something of a logical progression here: if the causal closure principle is correct and all physical events are determined by physical causes, then noninterventionist divine action seems impossible. But if ontologically underdetermined areas exist, then God could essentially fill that causal vacuum—or so it is argued. Again, these causal joint proposals give enormous theological power to the natural sciences, insofar as they determine where indeterminism might exist. It is perhaps ironic that proponents of these standard special divine action theories defend a traditional theism in which God acts personally, while simultaneously giving science nearly unlimited authority to determine the parameters around such action. Moreover, the noninterventionist causal joint program is perennially vulnerable to scientific advances in the relevant areas. As Charles Coulson quipped, “There is no ‘God of the gaps’ to take over at those strategic places where science fails; and the reason is that gaps of this sort have the unpreventable habit of shrinking” (1955, 20). In any case, a commitment to noninterventionist divine action has been remarkably prevalent in recent decades. But is the question of intervention question-begging, presuming a debatable God–nature relationship? As will be discussed, the entire metaphysical framework implied in the intervention/nonintervention dichotomy is rejected outright by representatives of the theological turn in divine action.

The Laws of Nature

Closely related to the noninterventionist commitment is the question of the laws of nature. Indeed, to ask whether God intervenes in the laws of nature is to presume a specific ontology for those “laws”; the very notion of intervention presupposes a closed system of binding physical relationships. In divine action debates, there is disagreement over whether the laws of nature should be considered prescriptive or descriptive. Prescriptive laws would constitute necessitarian physical relationships; they would “ontologically determine which possibilities are open to the world and which are not” (Saunders 2002, 66). Those affirming a descriptive view of the laws of nature, however, describe the laws as contingent, nonbinding descriptions of regularities. Many divine action theorists endorse a descriptive view of the laws of nature, as this would seem to allow scope for divine action (i.e., God cannot “break” scientific laws if the laws are not rigidly fixed in the first place). However, the whole noninterventionist paradigm in which these theorists work actually *presumes* an ontological status for the laws of nature; the noninterventionist question itself “presupposes a strong ontological concept of the laws of nature in the first place” (Gregersen 2008, 191). In other words, if “laws” really just describe nonbinding regularities, why the concern about intervention? Indeed, the expressed affirmation of

descriptive laws is a puzzling feature of many noninterventionist theories, suggesting a high degree of confusion regarding the laws of nature. In any case, Gregersen is correct that the prescriptive “concept of the laws of nature serves as a foil for shaping the idea of non-interventionist [special divine action]” (2008, 191). If the laws of nature are ontological and prescriptive, then the only noninterventionist possibility for divine action would involve ontologically underdetermined areas in which God could act.

The debate about the laws of nature is perhaps made clearer by a further distinction: between the laws of nature as they actually *are*, and the laws of nature as current science now understands and formulates them. Indeed, many theorists speak of the laws as descriptive, but seem actually to be referring to the currently incomplete laws of *science*. This is an important distinction, as there is a significant difference between the laws of nature being ontologically descriptive of discrete events, and the laws instead referring to useful, human approximations of reality. Many theorists seem unaware of this distinction, but others work constructively with this instrumentalist, or approximationist, view: “‘Our laws of nature’ are much more limited and uncertain than the full range of ‘the laws’ in themselves . . . there are also such processes and relationships which are in principle beyond the competencies of the natural sciences to investigate and to model” (Stoeger 2008, 237). As will be discussed, many proponents of the theological turn embrace this approximationist view, arguing that a full account of the laws as they really are would include “higher laws”—a sort of lawful causal joint through which God affects the “lower laws” described by current science. As William Stoeger explains it, “God may act in a purely ‘natural’ way . . . but in a way which we see as supernatural intervention simply because we have not yet come to comprehend fully the relationships and regularities (the ‘higher laws’) which obtain” (2009, 124). The merits and challenges of this approach will be picked up below.

Incompatibilism

A third defining commitment in the divine action conversation involves compatibilism, or the question of whether a closed, physical causal history is compatible with simultaneous divine action. That is, can divine action be affirmed even if scientific explanations are fully sufficient? Incompatibilists would answer in the negative, and this is perhaps an intuitive position: it may seem self-evident to say that either physical laws produced an outcome, or God did, but not both. As Smedes characterizes the incompatibilist approach: “in order for God to act, something in the natural order has to give way—hence the active search for irreducible ontological gaps in the causal nexus” (2008, 246). And indeed, the incompatibilist approach has been dominant in standard causal joint theories; in fact, the search for underdetermined causal joints *assumes* incompatibilism.

Indeed, if compatibilism were to be affirmed, there would simply be no need to find a specific physical space that was underdetermined by the laws of nature—God could act in and through known laws of nature. Once again, incompatibilists privilege science in determining whether and how God might act; this “enables one to rule out types of special divine action on the basis of our scientific understanding of the laws of nature—God may only act in a special, direct way in the ‘causal gaps’ opened by indeterminacies” (Stoeger 2008, 240). First assuming a noninterventionist framework and prescriptive laws of nature, incompatibilists must then find gaps in the otherwise lawful causal web in which God might work in addition to physical mechanisms.

Though incompatibilism has remained a dominant assumption in divine action debates, compatibilists are by no means absent from the conversation (even within the DAP). Compatibilists deny the noninterventionist, incompatibilist framework, affirming divine action as “continuous with natural processes, present throughout the whole cosmos and entirely compatible with our descriptions of mathematical behavior” (Ward 2008, 260). The classic compatibilist formulation is found in Thomism, which emphasizes the distinction between primary and secondary causality when addressing the causal joint problem: “Therefore God is the cause of every action, inasmuch as every agent is an instrument of the divine power operating” (Aquinas [1932]1947, *De Pot.* Q. 3, Art. 7). This dual affirmation that both God and secondary causes are fully causal in all natural events is known as double agency, and will be discussed below. The point here is that incompatibilism has been a governing commitment (implicit or otherwise) in contemporary divine action theories.

This section has highlighted the general contours of the theoretical commitments implicit in standard causal joint theories. Recent decades have been dominated by noninterventionist, incompatibilist approaches that presumed an ontological status for the laws of nature. Crucially, this approach renders *science* as the final arbiter of whether and how God acts in nature; theology is, thus, subjected to current scientific knowledge. The next section explores the “theological turn” in science and religion, identifying how representatives of this trend reject these metaphysical commitments.

THE THEOLOGICAL TURN

In recent years, many divine action theorists have begun to challenge the standard noninterventionist, incompatibilist approach to divine action. Thomists, pneumatologists, and theistic naturalists more generally have all questioned the metaphysical bases of the types of causal joint theories characterized by the DAP. This theological turn in science and religion is marked by a theological prioritization in articulating the basic relationship

between God and the material world, rather than presuming an ontologically self-sufficient physical world in which God may or may not be “allowed” to act in specific causal joints. They suggest that by questioning the metaphysical commitments framing the standard noninterventionist framework, one can imagine alternative ways to think about the causal nexus between divine and material realities. Specifically, the theological turn is characterized by the question, “What does it mean for the physical world to be properly natural?”

Representatives of this theological turn can be loosely identified as “theistic naturalists.” That is, while they affirm a full commitment to the natural sciences (i.e., they do not look for natural gaps in which God might act), they also emphasize the role of theology in defining the ontology of nature itself. Science, it is argued, is limited when it comes to defining the basic God–nature model. I should note that the “theistic naturalism” label is not one that all such theorists would embrace; it is used here to characterize a general cluster of approaches affirming both a robust theological account of nature, and the explanatory power of the natural sciences. So, for example, theistic naturalists (as understood here) reject the interventionist/noninterventionist debate as question-begging and presumptive of an autonomous and self-sufficient natural world: the question itself implies what Aubrey Moore called “a theory of ordinary absence” (1889, 184). Similarly, while most in the DAP tended to affirm incompatibilism, theistic naturalists often embrace compatibilism precisely because they do not see physical processes as *ever* occurring apart from relationship with God. Incompatibilism is deemed theologically insufficient, insofar as it understates the role of God’s immanent activity as a fundamental aspect of all natural processes. Finally, theistic naturalists often view the laws of nature (however they are understood) as inherently involved with God. As Gregersen writes, “the ontology of divine action determines the understanding of the laws of nature, rather than the other way around” (2008, 194). Essentially, then, representatives of the theological turn challenge the metaphysical presuppositions of the reigning paradigms and debates in divine action. Science is not able to point to an indeterminate aspect of nature in which God might act, precisely because all of nature already exists in fundamental relationship with God. There is no single causal joint, because all nature is inherently involved with God’s immanent and active presence.

While the theological turn has been well received (rightly, in my view), it can be challenged. Namely, it is not clear that theological approaches to divine action actually address the causal joint problem: in some way, uncreated divinity must interact with physical processes in order to actually affect the world. This material–immaterial distinction is still a serious challenge for divine action theories (though some theories do better than others at addressing this issue). Moreover, the theological turn can be

charged with misconstruing the natural sciences themselves (or at least not taking them seriously enough), and allowing theology to gloss over the implications of scientific research. These are significant challenges that need to be addressed if the theological turn is to substantially alter the divine action conversation. To that end, a few key representatives will be highlighted here. This is necessary, as the key to the theological turn is its emphasis on the prioritization of *specific* theological frameworks. Thus, I will highlight first the divine action theology of Thomism, and use that as the backdrop against which panentheistic naturalism and pneumatological naturalism can be compared. While (unfortunately) I cannot do justice to any of these approaches, a cursory overview will demonstrate the key distinctions and commonalities among them.

Thomism

Thomism is arguably the paradigmatic example of a purely theological approach to divine action, often acting as the inescapable backdrop against which other approaches are developed—or developed *against*. The starting point for Thomistic divine action is the affirmation that “God is in all things, and innermost” (Aquinas 1948, *Sum* Ia, Q. 8, Art. 1.). Like the theistic naturalist, Aquinas affirms that all physical processes (secondary causes) are ultimately dependent upon God. The idea of a self-sufficient, autonomous natural world is foreign to Thomistic thought. It is true that Thomists deny causal gaps in the created order; as Elizabeth Johnson writes, “in principle there are no gaps in the universe, which is complete on its own level” (1996, 8). Nevertheless, Thomism maintains that a gap-less natural world is yet fully involved with God: “in all things God works intimately” (Aquinas 1948, *Sum* Ia, Q. 105, Art. 5.). We have here the classic example of compatibilist divine action theology: natural causes are complete at their own level, but God as primary cause is simultaneously causing and acting through those natural causes. This is the heart of double agency; full agency is granted to both created and uncreated causes, but (somehow) in different ways. Elizabeth Johnson goes so far as to assert that “it is incoherent to think of God as working in the world apart from secondary causes. . . . God acts wholly through and in the finite agents that also act wholly in the event. As a result, the one effect issues from both primary and secondary causes simultaneously” (1996, 12). For Thomists, this relationship between God and nature necessitates the rejection of standard causal joint models. Indeed, once this basic God–nature relationship is established, the problems with divine action would seem to dissipate—if not disappear altogether. That is, the ontology of nature is such that it is ever and always dependent upon God as primary cause; God is never absent or inactive, even while natural processes occur without explanatory gaps.

Like other theistic naturalist approaches to divine action, Thomism challenges the premises of the three commitments implicitly shaping modern divine action theories. The noninterventionist paradigm is rejected as presuming an insufficient ontology of nature; God literally cannot intervene because God is always acting as primary cause in the first place. Incompatibilism is rejected for similar reasons. That is, the Thomistic emphasis on different types of causation enables the affirmation that both God and natural processes are fully responsible for bringing about the same events. And regarding the laws of nature, Thomists insist that God's constantly causal role in all secondary processes renders the debate theologically meaningless. In other words, God can act in, through, and under the laws of nature, regardless of their ontological status as prescriptive or descriptive. As Michael Dodds explains, "on the natural level, one can describe what happens in the world entirely in terms of causes that are open to the investigation of empirical science" (2012, 187). The world of created causes operates on a wholly different level than God, who works in and through natural processes in a manner that respects the integrity and completeness of that natural level. The upshot of all this is that for Thomists the reigning debates guiding the divine action conversation presume an erroneous God-world model; there is no single causal joint through which God can effect change in the natural world, because *everything* "that the secondary cause is and does is caused by the primary cause" (Silva 2014, 280). The point here is that the Thomistic divine action model can be thought of as a type of theistic naturalism, insofar as nature is always dependent on divine agency—even as it is prone to full explanation on the level of physical causes.

While Thomistic divine action has been compelling for centuries of Christian thinkers, the approach faces serious challenges. Again, the key to Thomistic divine action is double agency: "the same effect is ascribed to a natural cause and to God" (Silva 2014, 284). It can be quite difficult to see beyond the paradox in this. If scientific explanation fully accounts for the natural causes of an event (as Thomists readily affirm), how does primary causality avoid the charge of redundancy? Again, the claim is that "God acts wholly through and in the finite agents that also act wholly in the event"; it is not as if God does a bit of the work and the laws of nature do the rest (Johnson 1996, 12). Thomists ultimately appeal to divine mystery when it comes to the actual "how" of double agency, univocally insisting that we *cannot* know how an uncreated God works through created causes. Denis Edwards, for example, goes so far as to assert that "a theology of divine action not only should not spell out how God acts, but should insist that this is something we cannot know" (2010, 63). And yet, double agency can seem incoherent and redundant, undermining the sufficiency of natural causes. Joseph Bracken admits to seeing "major problems in proposing that two ontologically independent subjects . . . each

wholly produce one and the same finite effect” (1996, 723). After all, Thomists themselves grant the sufficiency of scientific explanation on the natural level; the additional assertion of simultaneous divine causation can seem ontologically superfluous—or, as John Polkinghorne has infamously quipped, “an unintelligible kind of theological doublespeak” (1994, 81–82). The Thomistic appeal to mystery may eventually be inevitable or even theologically desirable, but is this sort of compatibilism an adequate approach? Thomists insist that the search for a causal joint is wrongheaded, because God is acting in everything that happens. And yet, must there not be a specific point at which uncreated reality affects the material world, if divine transcendence is to be preserved? It is not clear that this problem is solved by the affirmation that everything is, essentially, a causal joint.

In addition to the paradox of double agency, Thomistic divine action is essentially immune to scientific critique; “the science and the theology pass by each other without much traction” (Wildman 2006, 148). Because this theological approach is just that—explicitly theological—Thomists can simply assert that divine agency occurs irrespective of scientific analysis or knowledge of causal mechanisms. Thomism affirms that scientific knowledge is fully explanatory on its own level, and that God’s action just works in and through the laws of nature—regardless of what those laws turn to be. This may seem to be a mere theological gloss that prevents rigorous engagement between science and religion. Moreover, this comes back to the core causal joint problem: if God is transcendent and has specific purposes to be enacted in the natural world, then at some point the divine will *must* meet physical processes. Wholly theological models of divine action struggle to define how primary causality could effect a concrete change at the physical level.

These critiques notwithstanding, however, contemporary Thomists have been developing divine action theories that may circumvent some of the difficulties with the classical formulation. Retaining the theistic naturalist’s assumption that all nature is fundamentally involved with God, some have begun to reconsider how primary causality is to be understood. Double agency is controversial and paradoxical, but is there another way to formulate the relationship between God and the natural world? Thomists like Michael Dodds, for example, have emphasized the participatory character of the God–nature relationship—thus avoiding the possible redundancy or coercion of double agency. Suggesting the replacement of the word “causation” with “participation,” Dodds even suggests that “if ‘causation’ tends to arouse images of interference, the word ‘participation’ seems to imply cooperation rather than intrusiveness. And if ‘causation’ raises the imagined need for a ‘causal joint’ in which cause and effect can somehow interface, ‘participation’ raises no such specter since it accents the true intimacy which characterizes the action of God in the creature” (2000). This is a fascinating move, as it seems to shift away from double agency; it instead

stresses the fundamental participation of God in nature. That is, there may be a difference between saying that both God and nature are fully causal at their own respective levels, and that nature exists in responsive relationship with God. A full explanation of the natural world would thus require an account of divine involvement with physical processes themselves, because all creatures exist and act *only* insofar as they participate dynamically in God. It remains to be seen whether this move to creaturely participation with God (as opposed to the language of causation) is an adequate response to the challenges Thomism faces.

Panentheistic Naturalism

A second version of theistic naturalism comes from Eastern Orthodox scholar Christopher C. Knight, whose theological approach to divine action is shaped by a panentheistic understanding of the God–world relationship. Knight argues that a full account of the natural world not only includes reference to God, but also that participation with God actually makes creation *more* natural: what most “call naturalism is—both for the Eastern patristic understanding and for my own—in fact no more than subnaturalism. Only in the context of what has been revealed to us by God can the universe in which we live be fully understood” (Knight 2007, 95). In other words, this approach challenges the natural/supernatural binary that undergirds the modern divine action debate, as well as the intervention/nonintervention dichotomy. Knight rejects the idea of an autonomous natural realm; naturalism must *of necessity* include reference to divine presence and activity. If this is the case, then insisting on noninterventionist divine action is wrongheaded; God cannot intervene because nature is inherently involved with God in the first place. That is, “questions about how God acts ‘on’ the world—as if from outside—are rendered meaningless since the model rejects the usual conceptual picture of what the cosmos can do ‘on its own’ or when merely ‘sustained in being’” (Knight 2011, 50). The Orthodox panentheistic doctrine of God with which Knight works requires that the everpresent influence of God is simply a brute fact about reality, and necessary for a full explanation of the natural world. This model allows us to “transcend the need for any distinction between what nature can do ‘on its own’ and what can only be done through some special mode of action” (Knight 2011, 47). Because all the natural world exists in God, divine action is quite literally the *most* natural thing in the world.

Given this panentheistic God–world model, how does Knight deal with the causal joint problem? Even if all nature exists in God, it is unclear how an uncreated and immaterial God could actually effect change in physical processes. Consistent with his theistic naturalism, Knight affirms that even divine action is (in principle) subject to naturalistic explanation. Even

when divine action seems inexplicable and untestable in scientific terms, this is not “because it is not susceptible to naturalistic understanding. Rather, it is because its manifestation depends on something that cannot be replicated under laboratory conditions: the faithful response to God of those who recognize him as their creator and redeemer” (Knight 2007, 39). Similar to participatory accounts of Thomistic divine agency, Knight thus emphasizes how relational response to God might affect the way that divine action is manifest in physical processes; the ontology of nature itself involves participation with God. But if divine action is in principle subject to naturalistic explanation, how can it be truly divine action, and how does it occur—what of the causal joint?

In dealing with this, Knight first rejects the common distinction between general divine action (GDA) and special divine action (SDA) or providence. This distinction between God’s general action in creating and sustaining the universe, and God’s specific “special” acts, Knight argues, implies an inaccurate God–nature model. That is, this dichotomy presumes a normal self-sufficient natural world; in Knight’s approach, “all aspects of providence are comprehensive in terms of a single, simple model” (2007, 122). Knight then affirms that all instances of SDA can be included in God’s initial act of creation, and thus be considered part of general providence. More specifically, Knight focuses on the laws of nature and God’s “fixed instructions” for those laws. That is, Knight affirms that divine actions are not a violation of the laws of nature, but reflections of “higher” natural laws at work. Relying on an affirmation that God is atemporal and cognitively unlimited in the way that humans are, the model suggests that God has woven divine responses into the laws of nature themselves. True, current science may not be able to identify or analyze these “higher” laws, but they also may not be conducive to scientific methodology in the first place. Knight’s argument is that “God’s creation, with its inbuilt ‘fixed instructions,’ is far subtler and more complex than our present scientific understanding indicates” (2009, 540). Knight is basically suggesting that God planned for all the eventualities that could occur in the world, “fixing” the instructions (laws of nature) in such a way that takes into account human response to God, physical and spiritual needs, and so on. As he writes, “the ‘fixed instructions’ inherent in the natural world could, at least in principle, have been so arranged that there is no need to supplement the general providence provided by the character of that world” (Knight 2009, 538). Even though these higher laws may “inevitably be beyond what the scientific methodology is able to examine,” they are no less natural than gravity or thermodynamics (Knight 2011, 49). Thus, what appear to humans as miraculous instantiations of divine action are actually fully explicable in naturalistic terms—but still occurring because of divine action. Again, Knight can say this precisely because of how he understands

naturalness: the more attuned and involved with God creation is, the more natural it becomes—literally.

Like the Thomistic affirmation of double agency, Knight's theistic naturalism is an explicitly theological approach to divine action, irrefutable on scientific terms. Also like Thomism, the model denies the need for a causal joint; *everything* is a causal joint, because involvement with God is fundamental to what it means to be natural. Further, both Knight's theistic naturalism and Thomism affirm that God is fully causal in divine action, even though divine action is in principle naturalistically explicable. And yet, questions remain. First, Knight's theistic naturalism is also immune to scientific critique. While this may be necessary or even desirable, it is unclear how this approach escapes "God of the gaps" charges: if apparent divine action is in principle explainable with higher natural laws, what is the nature of these laws? How could such laws bridge the gap between an ontologically immaterial being and physical processes? If divine action is fully natural and fully divine, how can one affirm divine transcendence? At some point, there must be an ontological gap between God and matter, if panentheism is to avoid slipping into pantheism. And indeed, many of the challenges that could be put to this theistic naturalism are common to panentheism in general: it is not always clear how panentheism can avoid collapsing into a pantheistic model when analyzed too closely. Are we to imagine a God–nature relationship in which an immaterial spiritual reality gradually bleeds over into physical processes? More simply—is God natural? If not, then the model does not fully address the causal joint problem—an unbridged ontological gap still exists.

I should note that Knight's model does seem to anticipate this issue, at least in part. Namely, the emphasis on God's atemporal action is key; the model affirms divine action as occurring at the time of creation, when *all* laws of nature were brought into existence. This is an interesting move, as it effectively removes divine action from the scrutiny of temporal processes, instead placing divine action on the level of the laws of nature themselves. This may be persuasive to many; even deists acknowledge God as creator of the laws of nature. If so-called "special" divine actions are really built into the fixed instructions of the laws of nature, the tension between scientific exploration and theological affirmations may be lessened.

The more pressing challenge, in my view, comes from Knight's dismissal of the causal joint altogether; rejecting the necessity of some sort of causal joint undermines divine transcendence. Again, if there is no causal joint because everything exists in God, then there seems to be little room for making an ontological distinction between God and nature. It should be noted that Knight's Eastern Orthodox framework purports to address this, namely in its denial of the unbridged ontological gap at issue here. In particular, the Eastern Orthodox framework emphasizes the relationship and distinction between the divine essence and the divine energies. Knight

would argue that this model allows for affirmation of both radical immanence *and* radical transcendence. Whether or not this model adequately addresses the threat of pantheism, the unbridged ontological gap remains debatable. Nevertheless, Knight's theistic naturalism offers a nuanced version of naturalism that is more theologically robust than most.

Pneumatological Naturalism

A third version of theistic naturalism can be called "pneumatological naturalism," which arises out of recent attempts to join a serious study of pneumatology with contemporary science. Two important scholars in this area are Pentecostal theologian Amos Yong and philosopher James K. A. Smith. Though their foci differ significantly, Yong and Smith are highlighted here because their respective works on pneumatology and science have been developed at least partly in response to each other. The resulting framework for divine action is arguably the best representative of pneumatological influence in the field of science and religion. Like Knight's pantheistic naturalism and many Thomistic approaches, pneumatological naturalism reverses the standard methodology of standard divine action theories. That is, advocates of a pneumatological approach question the presuppositions of the noninterventionist, incompatibilist paradigm. Like other representatives of the theological turn, these pneumatologists deny the implicit deism that would legitimize the notion of an autonomous natural world apart from the Spirit of God. Rather, "all that *is* 'participates' in the divine through the animating power of the Spirit" (Smith 2007, 254). The default position for creation, as it were, is to be involved with the activity of the Spirit. As with the other theistic naturalisms, pneumatological naturalism challenges normative assumptions regarding what it means to be properly natural. Smith and Yong see all of the natural world as being inherently involved with the presence and activity of the Spirit—rather than as autonomous at the natural level. Unlike Knight's pantheistic model, however, pneumatological naturalists emphasize the role of the immanent Spirit in explaining the God-nature relationship—rather than relying on a pantheistic metaphysic. And unlike Thomism, theologians like Yong and Smith emphasize the relational dynamic of the Spirit–nature model, rather than affirming double agency.

But what, exactly, do pneumatological naturalisms entail? Essential here is the emphasis on the normativity of the Spirit's active presence in the natural world: to be fully natural is to be responsive to the immanent Spirit in creation. Smith labels his version of this perspective "enchanted naturalism": "Matter *as created* exceeds itself and *is* only insofar as it participates in or is suspended from the transcendent Creator" (2008, 889). This is similar to Knight's theistic naturalism, as well as the participatory ontology of many Thomists; to be natural is to be fundamentally involved with God

at the most basic level. Yong adds an explicitly pneumatological emphasis to Smith's enchanted naturalism; he (in Smith's words) affirms the Spirit as "the agent of 'suspension', the Triune person *in* whom the material world is suspended" (Smith 2008, 890). In other words, theological affirmations of divine immanence and the Trinitarian personhood of the Spirit allow for a naturalism that includes—even requires—an account of divine presence and activity. If physical reality is inherently "'charged' with the presence of the Spirit, and exists in dynamic, responsive relationship to the Spirit, then the problem of divine action would seem to be undermined" (Smith 2010, 12). Notably, a pneumatological framework for divine action performs the same metaphysical function as pantheism does in Knight's approach, but without the attendant problems—namely, it normalizes divine action, but without jeopardizing divine transcendence. Proponents, therefore, can argue that a pneumatological naturalism preserves both the immanence *and* transcendence of God: nature does not exist within God, but the Spirit is inherently active and immanent in nature. This is also similar to Thomism's affirmation of divine presence and agency in all things; pneumatologists, however, emphasize creaturely *involvement* with the Spirit, rather than the double agency of primary/secondary causation.

How, then, does pneumatological naturalism handle the causal joint problem? Smith affirms "the elasticity of nature as always already inhabited by the Spirit," but how exactly are we to understand an immaterial Spirit actually altering physical processes? Yong, for one, suggests that "the laws of nature are amenable to the basic actions of God and sufficiently flexible" (2011, 131). The implication here seems to be that God simply works with the laws of nature at the most fundamental level. Interestingly, Yong does affirm that the laws of nature are *real tendencies*; Smith would add that the Spirit works "in and through nature and its laws"—presumably to bring about specific unexpected events (2008, 892). Similarly, Smith argues that the laws of nature are not reified prescriptions of reality, but limited approximations of processes that are necessarily insufficient descriptions of reality. A full description of reality would include the Spirit's involvement with those laws: "nature is always more than the natural" (Smith 2010, 40). In other words, matter is *always* in relationship to God; there is no "pure nature" apart from the Spirit. As with Thomism and pantheistic naturalism, there is no single causal joint: "nature is always suspended in and inhabited by the Spirit such that it is always already *primed* for the Spirit's manifestations" (Smith 2010, 101). The entire natural world exists in fundamental relationship to the Spirit; there is no theoretical causal joint because matter and the laws of nature cannot exist without divine involvement in the first place. If some events seem more supernatural than others, this is due to varying levels of creaturely response and openness to the Spirit; they are "sped-up modes of the Spirit's more regular presences" (Smith 2008, 892). Comparatively dramatic experiences of divine action

are no less natural than any other natural process, for divine involvement with all natural processes is necessary for an account of the fully natural.

The pneumatological approach to divine action can be critiqued for many of the same reasons as is panentheistic naturalism and Thomism. For one, the approach essentially divorces scientific knowledge from theology; the Spirit is affirmed as working in and with the laws of nature, and science is given little authority to evaluate this claim. Some may find this an acceptable price to pay, but it is indeed a steep price when contemporary science has proven so extraordinarily successful—prematurely drawing boundary lines around science can be risky. Perhaps more significantly, it is still unclear how an immaterial being could affect the atoms and molecules of the physical world, if (as proponents insist) no causal joint is necessary. While proponents of an enchanted naturalism affirm that all nature is always somehow involved with the Spirit, this “somehow” is the causal joint problem to which we must always return. That is, if the Spirit is both transcendent *and* immanent, nonphysical, and not of the same “stuff” as created physical processes—then at some point, the Spirit must causally interact with basic matter. In Smith’s enchanted naturalism, for example, created beings can respond in varying degrees to the Spirit’s persuasive lure—but *how* does this lure occur? Pneumatological naturalists may claim (perhaps correctly) that the ontological status of matter itself involves participation with the Spirit, but this does not fully answer the question. Or rather, it is unclear how this sort of participation could occur without undermining the transcendence of God. That is, if the Spirit is interacting with matter and the laws of nature in such a way as to bring about specific instances of divine action, and there is no causal joint at which spiritual and physical realities meet, then how can theists say that God is fundamentally other than physical? This is the heart of the causal joint problem.

CONCLUSIONS

Thomism, panentheistic naturalism, and pneumatological naturalism share a commitment to explicitly theological frameworks for divine action, and this is in direct opposition to the standard divine action theories drawing upon supposedly underdetermined aspects of the natural world. While those involved with or influenced by the DAP have sought scientifically identifiable causal joints in areas like quantum mechanics, emergence, or chaos theory, those representing the theological turn are keen to question the metaphysical frameworks undergirding typical causal joint models. Indeed, these theological approaches deny the need or reality of a causal joint altogether, questioning the supposed autonomy of the natural world apart from divine agency. Though the approaches surveyed here are admittedly distinct and worthy of intense study in their own rights, they share a

common core assertion that all nature is inherently involved with divine presence and agency at all times. Thomism utilizes the primary/secondary causation distinction and double agency, Knight's panentheistic naturalism emphasizes God's atemporal involvement with the laws of nature, and pneumatological naturalists affirm the physical world's ontological involvement with the Spirit. In short, these theistic naturalist approaches reject the assumption that nature is self-contained and autonomous, and instead include divine agency as a basic and necessary component of a fully naturalistic account of reality.

But does the theological turn in divine action actually address the problem of the causal joint? True, these approaches reject the implicitly deistic metaphysics involved with standard causal joint proposals, instead affirming that "God never comes from outside because God is always inside" (Edwards 2010, 46). They insist that true nature *always* exists in dynamic, active relationship with God, the mechanics of which are forever unknowable. But how, then, is the ontological distinction between God and nature to be maintained? If we assume that God is both transcendent and immanent, we must pay more attention to this problem of divine influence in physical processes. At some point, the transcendent, immaterial God would have to actually interact with the brute, physical mechanisms explicated by contemporary science. Otherwise, God would be less than God, part of the physical world itself. If the ontological distinction between God and nature is to be maintained, there must be a causal joint. The challenge, it seems, is for these theological approaches to explore more fully the ontology of matter itself. What does fundamental participation with God mean for our basic understanding of the ontology of the physical world itself? More thought needs to be given to the question of how the material world can exist in fundamental interaction (including causal interaction) with God, while still maintaining the ontological distinction between created and uncreated realities.

Furthermore, it is unclear whether theological approaches take science seriously enough. While proponents champion these proposals precisely because they allow for full affirmation of scientific knowledge (i.e., they do not require causal gaps in which God might work), they are virtually immune to scientific critique. Indeed, the *mystery* of divine action has seemed, at times, to be a theological good. But one must ask whether this complete rejection of traction between science and religion is desirable or even admissible. Yes, it most certainly is inevitable that all divine action theories will eventually run against a wall of mystery, beyond which lie ontologically "other" divine realities. But this necessary frustration need not prevent theorists from at least recognizing the serious problems facing divine action theories—even those of the theological turn. Theological models of divine action run the risk of portraying a caricature of science, rather than taking seriously the "causal closure of the physical" that is

assumed in scientific inquiry itself. In other words, theological models of divine action may be rhetorically persuasive insofar as they explicitly affirm scientific knowledge, but still not allow that scientific knowledge to figure substantially in the resultant worldview. Nevertheless, it does seem that this recent shift away from standard causal joint proposals, and toward theological models for divine action, is a welcome and necessary change. However, while this theological turn is worth pursuing, the limits it seems to place on science should act as a perpetual caution to those of us asking these perennial questions.

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