

Philosophy, Science and Divine Action

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A PHILOSOPHICAL INTRODUCTION TO “DIVINE ACTION”

F. LeRon Shults

The slow process of the European construction of the spheres of “science” and “religion” and the hardening of the boundaries between them during the 17th and 18th centuries created an intellectual milieu in which traditional Christian ways of interpreting “religious” experience in the world increasingly came into competition with new “scientific” explanations of the world. The idea of divine action was relatively unproblematic and generally presupposed within Western medieval cosmology, with its philosophical mixture of Neo-platonic active principles and Aristotelian final causes, both of which were ultimately grounded in the divine (the Form of the Good, the Unmoved Mover).

However, as early modern science (especially classical mechanics) progressively filled the gaps in human knowledge about *natural* causes within a mechanical universe, the necessity (and plausibility) of appealing to *divine* causation gradually diminished. The rise of deism and protest atheism in the 18th and 19th centuries was partially in response to the growing philosophical challenges to the coherence of the notion of divine action, and its alleged incompatibility with human freedom and natural evil. All of this is well known. But where does the discussion stand in light of *contemporary* science and philosophy?

Philosophy, Science, and Divine Action

In our late modern philosophical context might there be new ways to make sense of the claim that God can act in or interact with the world? Many scholars still find such questions irrelevant (at best) and dangerous (at worst). Some scientists believe that discourse about events in the natural world ought to exclude references to theological hypotheses. Some theologians believe that discourse about the supernatural events of divine revelation ought to be insulated from scientific hypotheses. The voices at these polar extremes are often the loudest. In the last few decades, however, a growing number of scholars have been exploring

new ways of constructing a discourse that teases the boundaries of these academic disciplines in order to pursue more holistic and integrated interpretations of human life in the cosmos.

One exemplar of such interdisciplinary exploration that stands out for its scholarly breadth and depth is the *Scientific Perspectives on Divine Action* (SPDA) project, co-sponsored by the Vatican Observatory (VO) and the Center for Theology and Natural Science (CTNS). This multi-year collaboration involved over 50 authors meeting at five international conferences, resulting in as many volumes: *Quantum Cosmology and the Laws of Nature* (1993), *Chaos and Complexity* (1997), *Evolutionary and Molecular Biology* (1998), *Neuroscience and the Person* (1999) and *Quantum Mechanics* (2001). Each volume carried the subtitle: “scientific perspectives on divine action.” The historical background, bibliographic details, unique interdisciplinary process and impact of the project and the series are described by Robert John Russell in the Appendix (below).

This allows me to focus my attention in this *Introduction* on some general observations about the function(s) of philosophy within the SPDA project, which is the main rationale for showcasing these ten essays in the current book. The 91 essays in the five volumes of the CTNS/VO series could be classified and analyzed in a number of ways. For example, we could group them theologically, exploring ways in which particular themes such as the doctrine of God, creation or anthropology are treated across the volumes. Or we could examine the role played by developments or debates within specific scientific disciplines, such as physics, evolutionary biology or neuroscience. Such mining of the resources within these volumes has already begun in the capstone volume to the project, *Scientific Perspectives on Divine Action: 20 Years of Challenge and Progress* (CTNS/VO, 2008).

Our task here, however, is to provide a more general overview of the major *philosophical* themes and developments that played a more or less explicit role in the SPDA project. The volumes in the series offer analysis of specific philosophical concepts within both science and theology (such as space, time, matter and causality), as well as engagement with broader philosophical systems that aim to incorporate both science and theology, such as neo-Thomism and process philosophy. As Russell notes in his overview of the series in the capstone volume: “The overarching goal was to engage theology, philosophy, and natural science in a process of constructive dialogue and creative mutual interaction.” He observes that 30 of the 91 essays in the series *explicitly*

treated philosophical issues. I think it is also fair to say that all of the essays involve philosophical engagement at least *implicitly*, insofar as they utilize philosophical categories and attempt to contribute to our understanding of topics that have a long history of philosophical disputation.

The chapters in the current volume were selected for inclusion first and foremost because they demonstrate the value of explicitly attending to the philosophical issues that shape the dialogue between science and Christian theology about the idea of divine action in the world. Below I will provide a brief preview of each of these chapters. First, however, I want to back up and briefly outline three of the classical themes in philosophy (epistemology, metaphysics, and ethics) and three of the shifts in philosophical categories in late modernity (relation, kinesis, and difference), to which we can then make reference as we preview the chapters.

Classical Philosophical Themes and Late Modern Trajectories

Many of the particular issues within the complex history of the development of philosophy that are relevant for understanding the role of the idea of divine action in the contemporary dialogue between scientists and Christian theologians are outlined and analyzed in the context of the ten essays that comprise this book. For the purposes of this *Introduction*, therefore, it suffices to note three of the general areas into which philosophical discourse is often divided: metaphysics, epistemology and ethics. While treatments of these themes are clearly interconnected, for the sake of analysis we can distinguish between the kinds of questions that typically exercise philosophers: What is real? What is true? What is good? Broadly speaking, we are dealing here with the conditions for the human experience of being, knowing and acting in the world. Scientists and theologians operate, more or less self-consciously, within and across these spheres of discourse. One of the main goals of this book is highlighting the way in which philosophical themes and categories function within the dialogue among the disciplines.

Like just about everything in philosophy, the meaning of the term *metaphysics* is highly contested. In general it has to do with discourse about “being,” about the nature and structure of reality. Presuppositions about “that which is” inevitably impact both scientific and theological argumentation. One’s assumptions about the order of the world

(cosmo-logy) constrain one's options for thinking about the relation of the divine to (or in) that world. On the other hand, theological ideas about the nature of God (or ultimate reality) shape one's interpretations of experience within the cosmos. Moreover, concepts such as causality may *prima facie* appear to be simply neutral scientific notions, but they are wrapped up within broader (or deeper) metaphysical notions about the order of things and their intelligibility. This is perhaps most easily seen in the function of concepts such as space and time. The shift from a Newtonian to an Einsteinian understanding and use of these concepts was clearly of metaphysical import; the idea of "matter" itself was reconstructed in a new vision of the dynamic structure of reality.

Such issues cannot be divorced from *epistemology*. How do (or can) we know what we (think we) know about reality? After the demise of classical foundationalism and the rise of post-positivist philosophy of science, we have become acutely aware of the limits of human knowing. In the most popular interpretations of quantum theory, and in some interpretations of chaos theory, particular kinds of processes and events are viewed as unpredictable in principle, which leads many physicists to acknowledge an intrinsic limit to scientific knowledge. Awareness of the limitations of human knowing is intensified in theological discourse, which is distinguished by its attentiveness to the human experience of being-limited, and the ultimate boundary conditions that ground this experience. In neither discipline does the rejection of apodictic knowledge of the object of inquiry entail the denial of any knowledge of (or valuable engagement with) reality. As a middle way between naïve realism and anti-realism, we find an increasing number of scholars, including several included in this volume, embracing some form of "critically realist" epistemology.

If *ethics* has to do with "acting" then we might expect an interdisciplinary project on divine *action* to have special bearing on this arena of philosophical discourse. As we will see in the preview below, most of the philosophical energy of the project was devoted to issues of metaphysics and epistemology. However, it will also become clear that questions about morality (divine or human) are almost always in the background and quite often in the foreground in these discussions. This is particularly evident in the significant attention given in the project to two specific philosophical issues: theodicy and freedom. First, there was widespread agreement among the participants that *any* postulate of "special" divine action in the world exacerbates the theodicy problem. In fact, this is a primary reason that the next series

sponsored by CTNS/VO is focusing on the issue of natural evil.¹ Second, if events in the world (including human actions) are completely (or even partially) determined by God (or the laws of nature), then in what sense can we speak plausibly of human freedom and responsibility? Clearly metaphysical (and epistemological) claims about the relation between necessity and chance in the world are relevant for moral discourse as well.

Attending to these three general areas of philosophical discourse provides a synchronic overview of some of the most significant issues in the SPDA project. But we can also see the influence of philosophy if we think diachronically, pointing out historical shifts in the meaning and use of key categories. For most of its history Christian theology has been couched in the categories of Platonism and/or Aristotelianism, and has shared the resistance of both of these ancient philosophical schools to Stoicism. Many early modern scientific developments, however, were motivated by renaissance retrievals of aspects of Stoic philosophy, including some of its atomistic and deterministic elements. This contributed to an intellectual milieu that increasingly challenged Platonic-Aristotelian categories, as well as the Christian doctrinal formulations that relied heavily upon them. Our purpose here is not to recount the difficulties this caused for early modern theologians but to point out three specific categorical shifts in *late modern* philosophy that have shaped the conceptual space within the dialogue now occurs: the growing preference for relation, kinesis and difference over substance, stasis and sameness.

Whence and whither these philosophical trajectories? In Plato's *Sophist* the “visitor” convinces Theaetetus that there are five general kinds (*genōn*): “that which is” or “being” (*to on*) “rest,” (*stasis*) “change” (*kinesis*) “the same” (*tauton*) and “the different” (*heteron*). For the most part traditional Western philosophy (as well as science and theology) has followed Plato in starting with the category of being, which has to do with the essence or substance (*ousia*) of things, as distinct from their relations (or accidental attributes). Plato also tended to value rest over change (or motion) and sameness over difference, tendencies that were hardened in Neo-platonism and registered a profound effect on

¹ Nancey Murphy, Robert John Russell and William R. Stoeger, S.J., eds, *Physics and Cosmology: Scientific Perspectives on the Problem of Natural Evil*, vol. I (Berkeley: CTNS/VO, 2007).

Western thought. Although Aristotle challenged Plato's division between the realm of (unchanging) Forms and the realm of (changing) matter, he still—perhaps even more than Plato—valorized substance (*ousia*) over relation, rest over movement, and the same over the different. For both of these philosophers the categories of being, rest and identity were dominant in their metaphysics, epistemology, and ethics.

In late modern philosophy, however, one can trace a growing dissatisfaction with this dominance and a struggle to reverse (or at least balance) these tendencies through an emphasis on the philosophical significance of the categories of relationality, dynamism and difference. These trajectories have been motivated by scientific and theological as well as philosophical concerns. In the turn from substance to relationality, Immanuel Kant played an important role, explicitly reversing Aristotle in his first critique by making “substance and accidents” a sub-category “of Relation.” The shift is also evident in physics: from the Cartesian-Newtonian concept of material substances to post-Einsteinian concepts of relativity and field theories. Although they are not included in this volume, several theologians who participated in the SPDA project (e.g., Moltmann, Edwards) also illustrate this trajectory, articulating ideas of God that begin not with abstract notions of unitary substance, but with robustly relational (trinitarian) categories.

We can also see a late modern trajectory toward a metaphysical privileging of kinesis (or motion) over stasis (or rest). This is connected to the question of the relation between being and becoming, classically illustrated in the extremes of Parmenides and Heraclitus, whom Plato tried to balance. In his theory of the two realms, however, the temporal movement of material things is not the Ideal; for Plato true knowledge is contemplation of the (static) Forms. Newton's laws of inertia also presupposed a privileged realm of stasis—the unchanging three-dimensional structure of Absolute Space. Here too Einstein is the easy comparison. The shift from $F=ma$ to $E=mc^2$ represents a new awareness that dynamic energy—kinesis—is an essential and generative feature of the cosmos. According to Einstein (contra Newton), mass, the inertial property of matter by which bodies resist change of motion, should be identified with the energy of that motion. Developments in the fields of quantum mechanics and chaos theory have also confirmed and intensified this philosophical valuation of the dynamic over the static. This has led to non-deterministic and non-linear conceptions of temporality and causality as well, which many believe can open up new ways to imagine the “action” of God in relation to the world.

One can also trace a third late modern philosophical trajectory in which alterity (as opposed to identity) is increasingly embraced as a key generative category. Here we can point, for example, to Emmanuel Levinas' emphasis on the primordial relation to the other, which always resists the imperialism of the same, to Jacques Derrida's notion of *différance* and his broader project of deconstruction, to Gilles Deleuze's portrayal of the arrival of the Disparate as the force that generates intensities of difference, and to Paul Ricoeur's reflections on the ipseity of the self as it emerges in relations to others. Each of these thinkers (and others) has been influenced in various ways by Kierkegaard and Heidegger, both of whom privileged the category of difference in their philosophical speculations and psychological analyses of human relationships. Already in the late 17th century attention to difference began to transform the field of mathematics, leading to a shift from a substantial to a functional (relational) concept of “number.” This contributed to the emergence of differential calculus, which had a profound influence on physics and related sciences. However, the philosophical turn to alterity (or difference) has not (yet) played as significant a role in the science and theology dialogue.

A Philosophical Preview

The essays included in this volume are exemplary in several ways. They are all examples of state-of-the-art contributions to the debate over divine action among scientists and Christian theologians. They also represent the work of some of the most active participants in the SPDA project, and the broader international theology and science dialogue. Mostly importantly for the purposes of this book, they illustrate the care with which and depth to which the project attended to the role of philosophy in this dialogue. The following preview does not attempt to summarize the complex arguments of each essay; rather, it alerts the reader to some of the key philosophical concerns and concepts that are relevant for understanding and assessing the ongoing discussion.

The first three chapters included here were written by the three scholars who are widely acknowledged to be the leading figures of the contemporary resurgent interest in international dialogue among scientists and Christian theologians, which picked up momentum in the 1970s and has grown consistently to the present: Ian Barbour, Arthur Peacocke and John Polkinghorne. The fourth chapter is by William

R. Stoeger, S.J, one of the foremost Roman Catholic participants in and sponsors of the SPDA project. Wesley Wildman's contribution in the fifth chapter represents an important (but minority) voice within the project, a voice that challenges the idea of divine agency itself. The remaining five chapters all deal with the more specific question of special divine action in relation to quantum theory. It makes sense for the bulk of the book to focus on this theme, because the desire to construct a plausible model of "special" (or "objective") divine action was shared by the majority of participants, and engaging theories of quantum phenomena was an important part of the majority of such attempts. As we will see this holds for our last five authors as well: Philip Clayton, Thomas Tracy, Nancey Murphy, George Ellis and Robert Russell.

This volume begins with a chapter by Ian Barbour, whose influential taxonomy of "Ways of Relating Science and Theology" first appeared in the precursor volume to the SPDA series, and was later developed in more detail in several places.² The essay that is included here is the second of Barbour's contributions to the project: "Five Models of God and Evolution." Because theologians cannot avoid using philosophical categories in the systematic elaboration of ideas, Barbour commends the explicit and integrative use of philosophy in the engagement between science and theology. In this context Barbour himself illustrates this in two ways. First, he explicitly demonstrates the way in which four particular philosophical issues in contemporary biology (self-organization, indeterminacy, top-down causality, and communication of information) play a role in various models of divine action in an evolving world. Second, Barbour attempts to show the illuminative power of process philosophy, especially the categories developed by Alfred North Whitehead and Charles Hartshorne. He argues that this philosophical system is able both to integrate the valuable insights of the other views and to move beyond them by better accounting for the human experience of interiority and novelty. This engagement with process philosophy, which explicitly challenges substance-accident dualism and begins with relational and dynamic categories, also illustrates the way in which the first two late modern trajectories (outlined above) have impacted the science and religion dialogue.

² Barbour, "Ways of Relating Science and Theology," in Russell, et al., eds., *Physics, Philosophy and Theology: A Common Quest for Understanding* (Vatican Observatory, 1988), 21-48. The four ways are conflict, independence, dialogue and integration. Cf. Barbour, *Religion in an Age of Science* (New York: HarperOne, 1990).

Arthur Peacocke introduces his essay with a reference to the ancient Israelite prophet Elijah, who experienced the “sound of sheer silence” in his encounter with “the Lord” (1 Kings 19). This story illustrates the way in which the idea of divine action in general, and “personal communication” in particular, play such an important role in interpretations of religious experience, especially in the Abrahamic traditions. Peacocke wants to maintain this intuition, but to articulate it in such a way that makes sense in light of contemporary science. He argues that the most adequate way (philosophically) to account for 20th century discoveries in sciences such as physics and biology is “emergentist monism,” which provides a model of whole-part causation that challenges the ontological dualism and epistemological reductionism of much early modern philosophy. Peacocke challenges interventionist conceptions of the God-world relation, which often presuppose a dualism between immaterial and material “substance,” and offers a “pantheistic” model in which the world is in some sense “in God.” Here too we see the influence of the philosophical privileging of relationality and becoming on the dialogue between science and religion. Like most of the other participants in the project, Peacocke recognizes that his proposal does not solve the “intractable” problem of evil, but he believes it does mitigate the conceptual problem of plausibly imaging the possibility of (personal and moral) divine action in the world.³

John Polkinghorne should also be counted as part of the trio of leading figures who have most significantly contributed to the contemporary resurgence of the dialogue between Christian theology and science. Although the title of his contribution included here is “The *Metaphysics* of Divine Action,” he makes it clear early in the essay that questions about being cannot be divorced from questions about knowing. Polkinghorne favors a version of “critical realism” whose motto is “epistemology models ontology.” Like most physicists, he accepts the Copenhagen interpretation of quantum phenomena, which argues that the indeterminacy displayed in sub-atomic particle experiments is not a result only of the epistemological limits of human observers, but an indication of real openness in the natural world. Unlike many other participants in the series, however, Polkinghorne wants to expand this

³ Peacocke’s engages these and other philosophical issues (including the epistemological implications of critical realism) in more detail in *Theology for a Scientific Age: Being and Becoming—Natural, Divine and Human* (Minneapolis: Fortress, 1993).

openness to chaos theory, which deals with macrophysical objects and events. In the context of this particular essay, Polkinghorne focuses on ways in which metaphysical assumptions about the nature of time and epistemological assumptions about the knowability of the future shape our conceptions of divine action in (and divine knowledge of) the world. The main point for our purposes here is that he too illustrates the importance of explicitly attending to the philosophical mediation of the dialogue between science and religion.⁴

William Stoeger, S.J., was one of the leading organizers of the SPDA project (representing the Vatican Observatory) and the most active Roman Catholic contributor to the book series. In the essay included here, Stoeger argues that the distinction between primary and secondary causality, which was developed by Thomas Aquinas in his adaptation of Aristotelian metaphysics, provides us with a useful philosophical tool for clarifying the nature of divine action. Variations of this approach, which are often classified as “neo-Thomistic,” comprise one of the most significant and widely shared strategies among contemporary Roman Catholic theologians in the science and religion dialogue. Stoeger suggests that these philosophical categories are “more adequate to both the scientific and the theological data, and lead to fewer difficulties in explicating the essential differences between God and his/her creation, and the ideas of divine immanence and transcendence.” For the purposes of the current volume, this essay provides a clear example of an attempt to maintain and refigure a medieval set of categories in dialogue with contemporary scientific discoveries such as information theory and top-down causality.

Wesley Wildman’s essay addresses one of the key issues that has dominated the traditional dialogue between science and theology: the role of “teleology” in arguments for divine action. Most medieval and early modern Christian interpretations of God’s creative and providential relation to the world appropriated (to some extent) the Aristotelian notion of “final” causality. This way of making sense of the apparent purposiveness in nature was increasingly eclipsed by the emphasis in classical mechanics on “efficient” causality. Wildman demonstrates how the problem of linking teleology and divine action was further complicated not only by developments in evolutionary and molecular

⁴ For an overview of Polkinghorne’s approach to the dialogue, cf. his *Belief in God in an Age of Science* (New Haven: Yale, 2003).

biology, but also by the fundamental metaphysical ambiguity that characterizes philosophical discourse. Based on his analysis of the notion of “having an end” throughout the philosophical tradition, Wildman offers several schemata for making sense of this complex conceptual debate. For example, he distinguishes between four types of teleological views in biology, outlines three stages that must be included in any teleological argument for divine action, and delineates the way in which six modes of divine action can be correlated with “teleological loci” in nature. Wildman’s essay illustrates both the material significance of metaphysical questions and the methodological value of philosophical distinctions in the ongoing debate. He also represents the inclusion within the project of a minority position among Christian theologians in the dialogue. In light of the problem of evil and other conceptual issues, Wildman is willing to give up the idea that God acts (intentionally, or in a way analogous to human agency) in the world, and prefers to speak of God (or ultimate reality) as the ground of being.⁵

The remaining five chapters explicitly try to maintain the idea of intentional or “special” divine action in the world, and do so in a variety of ways, all of which heavily engage quantum theory. We begin with an essay by Philip Clayton: “Tracing the Lines: Constraint and Freedom in the Movement from Quantum Physics to Theology.” Like most of the other contributors to this volume, Clayton argues that the Copenhagen interpretation of quantum indeterminacy opens up new possibilities for making sense of divine action. However, he emphasizes the importance of balancing metaphysical courage with epistemic humility as we explore these possibilities. Clayton suggests that instead of thinking of physics and metaphysics in dichotomous terms, we should imagine them as falling at different points on a continuum of abstraction. Questions about divine action require us to move further along the continuum toward abstraction, but should nevertheless be connected to (and in some sense constrained by) questions about the concrete nature of the physical world. On the other hand, Clayton also acknowledges the insight of post-positivist philosophy of science that metaphysical decisions are not simply determined by the data of physical theories. Like Peacocke and others, Clayton commends a panentheistic metaphysics as

⁵ In his contribution to the capstone volume, Wildman makes this argument more extensively in the context of his classification of the project’s participants. Cf. Wildman, “The Divine Action Project,” *Scientific Perspectives on Divine Action*, 176.

offering the best current option for tracing the lines between quantum physics and theology.⁶

In his essay “Creation, Providence and Quantum Chance,” Thomas Tracy also (like William Stoeger) utilizes the philosophical distinction between primary and secondary causality. On the one hand, God primarily and directly causes the (continual) existence of all finite things. On the other hand, God can also act through “secondary” causes, producing results indirectly through the operation of finite things. Tracy suggests that quantum theory has led to a philosophical challenge to exceptionless causal determinism, long accepted by scientists and theologians, which opens up a new way to think of God’s special (and objective) action in the world. The kind of divine action in history that is central for the faith of the Abrahamic religions, argues Tracy, requires that there be gaps (of the right sort) in the causal structures of nature. These gaps appear to him to be provided in the indeterminacy of quantum events. For Tracy, such gaps are not created ad hoc in the world by God’s special acts of intervention but are built into structure of the world created by God *ex nihilo*. Like most of the other contributors who engage quantum theory, Tracy also explicitly makes the connection between metaphysical decisions (about compatibilism and incompatibilism for example) and issues that bear on ethics, such as the plausibility of the idea of human free will and responsibility.

Nancey Murphy was another one of the most active of the participants in the project, serving as co-editor for three of the volumes in the series as well as the capstone volume. In the paper included here, “Divine Action in the Natural Order,” she outlines a theory of causation that attempts to account for both scientific phenomena and religious experience. Murphy stresses that the problem of divine action is, at base, a metaphysical problem. “Nothing short of a revision of current metaphysical notions regarding the nature of matter and causation is likely to solve the problem of divine action.” Murphy’s essay also demonstrates the importance of the first two late modern philosophical trajectories outlined above. For example, in her treatment of the metaphysical considerations that shape the dialogue, she traces the role of concepts such as matter, substance, change, and motion in

⁶ In his chapter in the capstone volume, “Toward a Theory of Divine Action that has Traction,” Clayton commends emergence theory as a valuable and viable metaphysic for incorporating both scientific and theological concerns.

the shift from Aristotelian to Newtonian cosmology. In Murphy’s own proposal for understanding divine action in dialogue with contemporary science, chaos theory and top-down causation play a subsidiary role; God acts at the quantum level, activating one or another of the innate powers of a quantum entity, from the “bottom-up” without changing the laws of nature. As she makes clear throughout, Murphy’s philosophical efforts are also motivated in part by a theological desire to avoid exacerbating the problem of evil while making sense of the experience of free-will.⁷

George Ellis’s chapter is, as he notes, intended largely as a response to Murphy’s, with which he basically agrees. Ellis’s concern is to clarify and make use of the distinction between “Ordinary and Extraordinary Divine Action.” For the purposes of this introduction, two points about his essay are particularly salient. First, Ellis’s overview of the relevant scientific developments, such as chaos theory and emergent order, shows the significant impact of the late modern philosophical shifts toward privileging relationality and dynamism over substance and stasis. Second, Ellis provides a more detailed treatment of the role of the problem of evil in reflections on divine action. He acknowledges that theories of extraordinary divine action are susceptible to the charge of capriciousness. If God can, and occasionally does act, why does God not act to stop Hitler (for example), or to alleviate contemporary experiences of pain and suffering? Ellis’s own view is that God acts (extraordinarily) only to give revelatory, spiritual or moral insight, not to alter a physical outcome from what it would have otherwise been. This proposal offers a clear example of the way in which moral concerns can play an important role in the treatment of metaphysical and epistemological issues within the science and theology dialogue.⁸

The final chapter included in this book is by Robert John Russell, director of CTNS, and the main organizer of the project. He was the leading editor of each volume in the CTNS/VO series, and arguably the person most familiar with the general contours of the ongoing debate among the participants during the process as a whole. “Divine Action and Quantum Mechanics: A Fresh Assessment” was the last chapter

⁷ Nancy Murphy’s chapter in the capstone volume explored “Emergence, Downward Causation and Divine Action,” outlining several key philosophical issues and evaluating a variety of approaches to these themes.

⁸ Cf. George Ellis and Nancy Murphy, *On the Moral Nature of the Universe* (Minneapolis: Fortress, 1996).

in the fifth and final volume of the series, and it offers a summary of the key issues in the field, outlines a constructive proposal and suggests directions for future research. Throughout the essay, Russell pays special attention to philosophical aspects of the dialogue, including the metaphysical and epistemological questions that shape the interpretation of quantum mechanics. His own proposal involves the appropriation of theologians like Jurgen Moltmann and Wolfhart Pannenberg, for whom trinitarian reflection plays a central role in articulating the relation between God and the world. Russell also explicitly addresses the two main ethical (or moral) questions that shape Christian discourse on divine action: the problem of human freedom and the challenge of theodicy.⁹

Conclusion

Although showcasing these influential essays from the SPDA project would be sufficient warrant for the production of the current book, its inclusion in the Brill series “Philosophical Studies in Science and Religion” suggests that another motivation lies behind their compilation. Both individually and as a group these chapters illustrate the significant role of philosophy in the dialogue between science and Christian theology over the question of divine action. This is so amply demonstrated in the various essays that I have limited myself in this *Introduction* to alerting the reader to some of the major philosophical themes and shifts that shape the general context of the dialogue and the particular material and methodological argumentation of each contribution.

The project was not intended to offer a final answer on the question of divine action but to press the dialogue between Christian theology and natural science further in light of the significant scientific (and philosophical) developments of the last century. No single project can accomplish everything, and the organizers self-consciously focused their interdisciplinary exploration by limiting themselves to dealing with those scientific fields that appeared most promising for opening up new opportunities for reconstructing Christian interpretations of the experience of God’s action in the world. Although they welcomed and

⁹ For a more detailed treatment of these and related issues, cf. Russell, *Cosmology—From Alpha to Omega* (Minneapolis: Fortress Press, 2008).

encouraged discussion of the ethical issues raised by the problems of human freedom and theodicy, most of the philosophical analysis focused on metaphysical and epistemological issues. As indicated above, a new series that explicitly treats the problem of natural evil has now been launched, demonstrating that its participants are well aware of the need for ongoing interdisciplinary dialogue about the various and complex questions that must be faced in discussions of divine action.

As this dialogue continues to widen, geographically and conceptually, it will be necessary to complement the insights gained and progress made by the CTNS/VO series on divine action by examining the topic from other perspectives and continuing to welcome new voices into the conversation. This will open up new opportunities for critically engaging the deeper philosophical presuppositions that shape the very idea of divine agency in Christian theology. To what extent might early modern metaphysical assumptions about the dyads “natural vs. supernatural” and “immanence vs. transcendence” constrain our options for interpreting encounters with ultimate reality? To what extent might western epistemological assumptions about the capacity of reason and the function of “analogy” in theological language constrain our options for conceptualizing the relation between human and divine intentionality? To what extent might individualistic ethical assumptions about the powerful role of desire for future goods in finite agency constrain our imaginative articulation of the relation of God to time? Our exploration of these and other challenging questions will be enhanced as we increasingly engage the resources of the late modern philosophical turn to alterity and of other (especially non-western) religious traditions.