IS THE GOD-WORLD RELATIONSHIP BASED ON UNILATERAL OR RECIPROCAL CAUSATION?

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Abstract. In this article, I set forth my understanding of reciprocal causality between God and finite entities in three stages, beginning with Aristotle's analysis of change in this world. Afterwards, I examine the way in which Aquinas used the causal scheme of Aristotle in his Christian understanding of the God-world relationship. Finally, I indicate how both Aristotle's philosophy and Aquinas's approach to the God-world relationship should be rethought so as to be more in line with contemporary scientific understanding of the evolution of life from non-life and the emergence of progressively higher-order life-systems out of lower-order life-systems within creation.

I. INTRODUCTION

The classical God-world relationship that was articulated by Thomas Aquinas in his *Summa theologiae* and other works relies heavily upon two key sources: the notion of participation in the philosophy of Plato and the understanding of material, formal, efficient and final causality in the metaphysics of Aristotle. For example in the *Summa* Aquinas argues that every finite entity must be created by God insofar as whatever participates in being owes its existence and total being to God as the one entity whose essence is simply to be or to exist.[1] On that presupposition he argues that God creates prime matter and is the exemplary, efficient and final cause of every finite entity. As he sees it, he is following the lead of Aristotle here with the latter's understanding of material, formal, efficient and final causality.[2] But Aristotle was only interested in explaining the reality of change within a world that always existed; whereas Aquinas, relying on Biblical sources,[3] was trying to explain Christian faith in God's creation of the world out of nothing (*ex nihilo*). The inevitable result was that Aquinas saw God as exercising unilateral efficient causality to bring the world into existence out of nothing, whereas Aristotle had in mind a reciprocal relation between cause and effect in bringing about the fact of change in the material world. That is, form empowers matter to move from potentiality to actuality even as matter sets limits or boundaries on the actuality thus achieved.[4] As will become clear in following the argument of this paper, Aquinas in my judgment would have done better to explain the Christian God-world relationship in terms of a reciprocal relation between God and creatures rather than a unilateral relation in which God acts as transcendent First Cause.

Admittedly, Aquinas also claims that in God's ongoing providential care of creatures, God makes use of some creatures to deal with other creatures. This is what is meant by the classic distinction between divine primary causality and creaturely secondary causality.[5] That is, as part of divine providence over the world of creation, finite entities likewise exercise efficient causality. Some of these finite entities exercise efficient causality to produce a single effect; other finite entities can produce different effects, depending

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1   Thomas Aquinas, *Summa theologiae* (Madrid: BdAC, 1951): I, Q. 44, art. 1. [Hereafter, ST]

2   Ibid., arts. 3–4.

3   *New American Bible (*New York: OUP, 1990), Gen.:1–2/4. [Hereafter, NAB]

4   W. T. Jones, *A History of Western Philosophy: Volume I: The Classical Mind* (Harcourt, Brace & World, 1952), 220–21.

5   Aquinas, ST I, Q. 22, art. 3.

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upon contingent external circumstances.[6] In both cases, however, the finite secondary cause is not the originator of the effect but only the executor of the primary causality of God in producing the effect. The proposal of reciprocal causality between God and a finite entity, however, implies that neither God nor the finite entity could produce a given effect simply on the basis of its own mode of operation but only through their simultaneous conjoint causal activity to produce an external effect.

In what follows, then, I set forth my understanding of reciprocal causality between God and finite entities in three stages, beginning with Aristotle's analysis of change within and between finite entities. Afterwards, I examine more carefully the way in which Aquinas changed the causal scheme of Aristotle in line with his own interpretation of God's creation of the world in Sacred Scripture and thereby unintentionally set up the longstanding problem of theodicy among Christian theologians: namely, how to reconcile the existence of natural and moral evil in this world with belief in divine omniscience and omnipotence. Finally, I indicate the way in which both Aristotle's understanding of change in this world and Aquinas's approach to the God-world relationship should be rethought so as to be more in line with contemporary scientific understanding of the evolution of life from non-life and the emergence of higher-order life-systems out of the ongoing interplay of lower-order life-systems within the cosmic process.

II. CAUSALITY IN ARISTOTLE'S METAPHYSICS

Aristotle was a student at Plato's Academy during his early years. Thus he was well acquainted with Plato's theory of Ideas, namely, that individual things are real to the extent that they participate in the higher-order reality of immaterial unchanging forms.[7] But, being more empirically minded than Plato, he claimed that these immaterial forms are embedded in material things or substances and are only known by human beings through abstraction from the limiting conditions of matter. Thus the immaterial form in each case specifies what a physical substance is. But, insofar it is a universal concept that applies to many such individual things it does not specify how one thing differs from other things possessing the same substantial form. Matter as a principle of individuation was still needed so as to give an individual thing its "thisness" (as opposed to its "whatness," what it shares with other individual things). Finally, form is further specified by the function or purpose that it serves in human life. The Aristotelian causal scheme follows naturally from these presuppositions. That is, in order to understand any individual thing, "we must know (1) the material of which it is composed (the material cause); (2) the motion or action that began it (the efficient cause); the function or purpose for which it exists (the final cause); and (4) the form it actualizes and by which it fulfils its purpose."[8]

This fourfold causal scheme works quite well with respect to knowledge of artifacts or inanimate things. But it becomes more complicated if the scheme is applied to organisms or things that are alive. To deal with this latter issue, Aristotle stipulated that every living thing has "an innate impulse to change."[9] That is, every living thing has an "entelechy" whereby it grows or develops into what it is supposed to become. The entelechy of the acorn, for example, is to become an oak tree. Yet only within higher-order animal species does this inbuilt entelechy become conscious, i.e., responsive to its environment; and only in human beings does the entelechy become self-conscious, able to plan and direct its own growth and development by rational reflection and personal decisions.[10] For Aristotle, then, the physical world is "an ordered hierarchy of individuals related to one another in such a way that each individual is at the same time the fulfilment of the purpose inherent in some other individual and the basis for a further development beyond itself."[11]

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6   Ibid., art. 4.
7   Jones, *A History of Western Philosophy*, 218–19.
8   Ibid. 224; see also Aristotle, *Physics: The Works of Aristotle*, ed. W. D. Ross (Clarendon Press, 1928), 194b23–25.
9   Jones, *A History of Western Philosophy*, 227.
10   Ibid., 266.
11   Ibid., 221.

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In this way, motion or change in this world is unending. But logically there must be one entity which is radically different from all the other entities that are undergoing change from moment to moment. That entity must be its own source of ongoing change and thus exist for itself and not for the sake of some other entity in the succession of things in motion. Otherwise, there is a perpetual regress in trying to account for the reality of change in this world.[12] At the top of the hierarchy of all the things that undergo continual change, therefore, there is the Unmoved Mover, something that is pure actuality, pure activity, pure intelligence, a being whose perfection inspires the universe's movement from pure potentiality (prime matter) to greater and greater degrees of actuality.[13] For this reason, Aristotle does not ask about a beginning or end of this world of constant and well-ordered change. As noted above, he believed that the universe always existed as a self-sufficient totality since motion or change is eternal.[14] There never was a time when nothing moved and there never will be a time when motion or change will cease.[15] A religiously oriented person like Aquinas would naturally be led to ask where the system came from and where it is going. But the answer to that question can only be grounded in divine revelation as found in the text of Sacred Scripture, not in reason alone.

III. AQUINAS'S ADAPTATION OF ARISTOTLE'S COSMOLOGY

Given Aristotle's indifference to specifically religious issues, why did Aquinas deliberately adopt the metaphysics of a pagan philosopher to explain the truths of revelation as found in the Bible and thereby risk being accused of heresy by many of his contemporaries? With the appearance of universities (as well as monasteries) as centers of learning in the late 12th and 13th centuries, philosophers and theologians like Aquinas increasingly recognized that the classical world view contained values that could be ignored only at the cost of corresponding deficiencies in their own medieval Christian point of view.[16] Aquinas, in particular, felt that "in order to understand anything, we need to know, first, what Aristotle said about it and, second, what light Christian revelation throws on Aristotle's view."[17] Accordingly, Aquinas like Aristotle believed that there must be a Supreme Being (whether named the Unmoved Mover or God) at the summit of the hierarchy of individual entities. Furthemore, like Aristotle's Unmoved Mover, the God of the Bible is pure actuality, pure activity, pure intelligence. But, unlike Aristotle's Unmoved Mover, the Biblical God is likewise Creator of the existing universe of finite entities. "There is nothing that does not owe its being, goodness, intelligibility and reality to God."[18] For, if every finite entity seeks to reproduce itself in another entity. God as Perfect Being likewise seeks to reproduce Godself in multiple finite entities and then to relate all these finite entities to "Himself" as their final end by way of divine providence for the world of creation.[19] As a result, within divine providence for the world of creation, everything that happens is directly willed by God and thus has a cause or sufficient reason for its existence and activity. What often appears to human beings as chance is actually due to a sequence of events willed by God that lies beyond our human comprehension (at least here and now).

But how does God create such a highly ordered world of finite individual entities? The first chapter of the Book of Genesis would lead one to believe that God created the world out of nothing through unilateral efficient causation. God said: "Let there be light and there was light"[20] In similar fashion, at the beginning of every "day" in the creative process, God simply said: Let this happen or that happen, and

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12   Ibid., 229; see also Aristotle, *Physics*, 258b13ff.

13   Jones, *A History of Western Philosophy*, 231; see also Aristotle, *Metaphysics: The Works of Aristotle*, ed. W. D. Ross (Clarendon Press, 1930), 1072b15–30.

14   Ibid., 1071b9.

15   Jones, *A History of Western Philosophy*, 228; see also Aristotle, *Physics*, 250b10ff.

16   Jones, *A History of Western Philosophy*, *Volume II: The Medieval Mind* (Harcourt, Brace & World, 1952), 211.

17   Ibid., 215.

18   Ibid., 230.

19   Aquinas, ST: I, Q. 19, art. 2.

20   NAB: Gen. 1: 3.

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the entity or event corresponding to that divine command came into being.[21] The Aristotelian notion of the Unmoved Mover as Pure Actuality, i.e., thought thinking itself without beginning or end,[22] however, does not involve unilateral efficient causation but only final causation vis-à-vis the world of finite individual entities: "as a perfect and eternal being the unmoved mover is peculiarly an object of desire and love. The universe turns in emulation of his goodness; its regular circular motion is the nearest approximation to his perfection that a sensible object can achieve."[23]. The Unmoved Mover is not even aware of the existence and activity of the world of finite entities, given its ontological status as thought thinking itself. Hence, in no way does the Unmoved Mover exercise providence over the world of creation in the manner attributed to God in the Bible. "He did not create the universe, for it is eternal, and he is utterly indifferent to it."[24]

Aquinas, however, evidently believed that Aristotle's causal scheme (material, formal, efficient and final causality) was still an apt tool for understanding the Biblically based belief of creation out of nothing through divine unilateral efficient causality. Yet, as noted earlier, he thereby inadvertently created the problem of theodicy for later generations of Christian theologians, namely, how to justify the existence of natural and moral evil in the world of creation. For, if God is well-meaning rather than malevolent in first creating and then sustaining a world of finite creatures, how is it that both natural and moral evil evidently exist in this world? If, however, one insists that God is indeed both omniscient and omnipotent vis-à-vis creation even though natural and moral evil are likewise present in the world of creation, then one has to question God's wisdom in bringing into existence and then sustaining a world of creation in which so much undeserved pain and suffering for creatures will be an inevitable factor. No matter which alternative one chooses, continued faith in the God of Biblical revelation becomes problematic. It would seemingly be easier to renounce belief in God altogether or at least to be agnostic about God's active involvement in the cosmic process.

IV. SCIENTIFIC RESERVATIONS ABOUT DIVINE UNILATERAL CAUSATION

Furthermore, reservations about belief in divine unilateral efficient causality vis-à-vis the world of creation can be based on more than strictly philosophical grounds. For example, it was virtually inevitable that in the early modern period of Western civilization, natural scientists began to think of nature as a rationally organized system in its own right, quite apart from its relation to God. For they had ever-growing confidence in human understanding of the universal laws of nature, especially insofar as these laws can be mathematically formulated and then empirically verified through observation and experiment. Initially, to be sure, philosophers like Francis Bacon and natural scientists like Pierre Gassendi, Robert Boyle and Isaac Newton believed that in their research and reflection on the nature of physical reality they were likewise learning the "mind of God."[25] For that purpose, they found a new metaphor for the God-world relationship. The notion of God as the divine clockmaker who designed the world to run like a clock, a divinely designed cosmic machine, became the basis for the new discipline of natural theology instead of theology based on divine revelation.[26] Yet it was not long before disciples of Newton like the Comte de Buffon and Pierre Laplace developed strictly naturalistic cosmogonies in which the notion of a Creator God to initiate and then preside over the workings of the natural order was no longer

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21   Aquinas, ST: I, Q. 65, art. 3; QQ. 66–73.

22   W. T. Jones, *A History of Western Philosophy: Volume I: The Classical Mind* (Harcourt, Brace & World, 1952), 215.

23   Ibid., 230–31.

24   Ibid., 231.

25   Margaret J. Osler, "Mechanical Philosophy", in *Science and Religion: A Historical Introduction*, ed. Gary B. Ferngren (Johns Hopkins Univ. Press, 2002), 145-52.

26   Richard S. Westfall, "Isaac Newton", in *Science and Religion: A Historical Introduction*, ed. Gary B. Ferngren (Johns Hopkins Univ. Press, 2002), 153-62.

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necessary.[27] To avoid the implication that belief in the objective laws of nature as set forth in the various natural sciences results in atheism and/or a purely materialistic understanding of the workings of nature, Christian philosophers and theologians were clearly challenged to explain how God works with nature or through nature so as to achieve divinely intended effects.

This task, however, became even more cumbersome as time went on. In the late eighteenth and nineteenth centuries of European history, empirical discoveries in the new sciences of geology and paleontology cast into doubt the literal understanding of the creation of the world in six days within the Book of Genesis.[28] The really big challenge to the classical understanding of the God-world relationship, however, was Charles Darwin's hypothesis in *The Origin of Species* (1859) that the evolution of higher-order animal species in nature can be explained in virtue of what Darwin called the principle of natural selection. That is, with rapid growth in numbers within various species and consequently with a growing shortage of food available for consumption, only those species (and those individuals within species) will survive and prosper that are by chance better equipped to acquire the food that they need to stay alive and to reproduce their own kind with the same adaptive advantages vis-à-vis the environment. Initially, Darwin believed that the principle of natural selection was part of the plan of Divine Providence to produce the creation of humanity and other higher-order animal species.[29] But, as he reflected on all the pain and suffering for animal species that did not survive this winnowing process and experienced shock at the premature death of his daughter Annie, by the time of the composition of *The Descent of Man* Darwin had become an agnostic about the existence of a Creator God, though never a confirmed atheist.[30]

How then can contemporary Christian philosopher/theologians effectively deal with the problem of God's relation to the world in this new evolutionary context? Gordon Kaufman in his book *In the Beginning, Creativity* proposes that God as transcendent is Absolute Mystery, whereas God as immanent within the cosmic process can be identified with Creativity in one of three modalities: first, the initial coming into being of the universe in which we find ourselves, sometimes expressed as the creation of something out of nothing (*creatio ex nihilo*); secondly, creativity at work in all the complex processes of the natural world; finally, creativity in human life, the creation of a world of cultural signs and symbols.[31] By implication, then, Ultimate Reality for Kauffman is not God as a transcendent personal being, namely, an entity endowed with intelligence and will to make things happen in this world, but creativity as a transcendent activity that empowers finite entities to achieve their self-fulfilment quite apart from the influence and activity of any external causal agency. As we will see below, creativity for Kaufman closely resembles Alfred North Whitehead's understanding of creativity in his major work *Process and Reality*.[32]

The second way to understand the God-world relationship is to claim instead that God as a transcendent person is imperceptibly but still continuously involved in the workings of the cosmic process. Aquinas, for example, maintains that God as Creator brings the total being of the creature into existence through the divine act of creation.[33] Contemporary neo-classical Thomists like Denis Edwards rephrase this argument for God's creation of the total being of the creature by instead proposing that, while the world of creation is capable of evolution in virtue of its own laws and mode of operation, it does so only "through the creative power of the immanent God."[34] Some process-oriented philosophers and theologians likewise advocate the continuous influence of God on the creative process with their claim that God

27 Ronald L. Numbers, "Cosmogonies", in *Science and Religion: A Historical Introduction*, ed. Gary B. Ferngren (Johns Hopkins Univ. Press, 2002), 237-41.

28 Nicholas A. Rupke, "Geology and Paleontology", in *Science and Religion: A Historical Introduction*, ed. Gary B. Ferngren (Johns Hopkins Univ. Press, 2002), 179–80.

29 James Moore, "Charles Darwin", in *Science and Religion: A Historical Introduction*, ed. Gary B. Ferngren (Johns Hopkins Univ. Press, 2002), 211–12.

30 Ibid., 212–15.

31 Gordon D. Kaufman, *In the Beginning … Creativity* (Fortress Press, 2004), 76.

32 Alfred N. Whitehead, *Process and Reality: An Essay in Cosmology*, corr. ed., ed. David R. Griffin and Donald W. Sherburne (Free Press, 1978), 21. [Hereafter, PR]

33 Aquinas, ST: I, Q. 45, art. 2.

34 Denis Edwards, *How God Acts: Creation, Redemption, and Special Divine Action* (Fortress Press, 2010), 44.

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is the "soul" of the universe and the universe is the "body" of God.[35] Finally, Arthur Peacocke proposes that, "if we identify the creativity of the world with that of its creator, we must emphasize that God is *semper creator*, all the time creating—God's relation to the world is perennially and eternally that of creator. But to speak thus is to recognize also that God *is creating* now, and continously in and through the inherent, inbuilt creativity of the natural order, both physical and biological—a creativity that is itself God in the process of creating."[36] As my own explanation of the God-world relationship will reveal below, I am in profound sympathy with all three of these positions affirming the continuous impact of God on the workings of the physical order. But I also provide a systems-oriented approach to the God-world relationship that is distinctively my own.

A third and last group of Christian philosopher/theologians who deal with the issue of the contemporary God-world relationship are those who for different reasons stipulate that a "causal joint" within the cosmic process is needed whereby God can be active in its mode of operation and directionality without at the same time suspending or otherwise interfering with empirically established laws of nature. John Polkinghorne, for example, claims that according to contemporary chaos theory chaotic systems are "intrinsically unpredictable" [37] Thus divine causal agency operating in the openness represented by the range of possible behaviors for the system in virtue of its "strange attractor" or principle of self-organization directs the system as a whole to one outcome as opposed to many others.[38] Robert John Russell in his book *Cosmology from Alpha to Omega* proposes instead what he calls non-interventionist objective divine action (NIODA) at the quantum level of existence and activity within nature: "the events that result from God's action must occur within a domain of nature in which the appropriate scientific theory can be interpreted philosophically in terms of ontological indeterminism."[39] According to Russell, at this quantum level of existence and activity within nature God can alter the workings of the cosmic process through a series of events that represent "direct, mediated and objective acts of God." [40]

There is a common denominator in the theories of Polkinghorne and Russell on how God acts within the natural world without suspending the objective laws of nature as determined in natural science. They both presuppose that God's actions in this world should be interpreted in terms of the understanding of material, formal, efficient and final causality that Thomas Aquinas and other Medieval scholastic philosopher/theologians derived from study of the metaphysics of Aristotle and the Hebrew/Christian Bible. Yet does an evolutionary approach to the God-world relationship demand not a total rejection but at least a radical rethinking of what is meant by material, formal, efficient and final causality with respect to the workings of divine providence within the cosmic process? That will be my argument in the final part of this essay where I present a systems-oriented approach to the cosmic process and the God-world relationship based upon the philosophical cosmology of Alfred North Whitehead.

V. A TRINITARIAN SYSTEMS-ORIENTED APPROACH
TO THE GOD-WORLD RELATIONSHIP

In the following key citation from his book *Process and Reality,* Whitehead argues:

> The causal laws which dominate a social environment are the product of the defining characteristic of that
> society. But the society is only efficient through its individual members. Thus in a society, the members can

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35   Charles Hartshorne, "The Compound Individual", *Philosophical Essays for Alfred North Whitehead* (Russell & Russell, 1936): 218–20; Sallie McFague, *Models of God: Theology for an Ecological, Nuclear Age* (Fortress Press, 1987), 78.

36   Arthur R. Peacocke, "Chance and Law in Irreversibe Thermodynamics, Theoretical Biology, and Theology", in *Chaos and Complexity: Scientific Perspectives on Divine Action*, ed. Robert J. Russell, Nancey C. Murphy and Arthur R. Peacocke (Vatican Observatory Publ., 1995), 139.

37   John Polkinghorne, "The Metaphysics of Divine Action", in *Chaos and Complexity: Scientific Perspectives on Divine Action*, ed. Robert J. Russell, Nancey C. Murphy and Arthur R. Peacocke (Vatican Observatory Publ., 1995), 153.

38   Ibid., 153–54.

39   Robert J. Russell, *Cosmology: From Alpha to Omega The Creative Mutual Interaction of Theology and Science* (Fortress Press, 2008), 125.

40   Ibid., 125.

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only exist by reason of the laws which dominate the society, and the laws only come into being by reason of the analogous characters of the members of the society.[41]

Efficient causality is thus exercised by the interrelated activity of actual entities (momentary self-constituting subjects of experience) as the material constituents of a society (or in my terms a system). Yet, from moment to moment these concrescing actual entities are themselves conditioned in their individual processes of self-constitution by the current governing structure of the society/system in which they originate. That defining characteristic or governing structure of the society, however, was set by the dynamic interrelationship between the constituent actual entities for the society/system from a moment ago. So there is reciprocal causation constantly at work within a Whiteheadian society/system from moment to moment.

Hence, unlike the substantial form in Aristotelian-Thomistic metaphysics, the governing structure of a Whiteheadian society/system does not exercise efficient causality in thus setting limits or boundaries to the dynamic interrelationship of its constituent actual entities. Rather, the governing structure of the society/system exercises formal causality vis-à-vis its constituent actual entities simply by its role as an objective constraint on their workings from moment to moment. Its influence on its constituents is, so to speak, informational rather than formational. This non-Aristotelian understanding of formal causality is very close to what Terrence Deacon in his book *Incomplete Nature* means by objective constraint rather than subjective causal agency in the emergence of a higher-order system out of a lower-order system.[42] That is, for Deacon there is no external causal agency needed to effect change in the governing structure of the system; it happens spontaneously as the material constituents of the system over time impose more and more constraints or limits on their reciprocal relation to one another. The system is evolving in its size and complexity in terms of autosynthesis or self-creation rather than in virtue of the activity of God or some other external causal agent that brings about evolutionary change in the system through the introduction of a new substantial form as in Aristotelian-Thomistic metaphysics.

Keeping in mind this understanding of the reciprocal coordination of efficient and formal causality within Whiteheadian societies/systems, we can now apply systems-oriented thinking to a Christian theological understanding of God and the God-world relationship. First of all, we can resolve the long-standing paradox in the classical doctrine of the Trinity that the three divine persons are distinct from one another in their ongoing mode of operation and yet are still only one God, a single ontological reality. For, understood from a systems-oriented perspective, their ontological unity is not that of a transcendent individual entity. It is rather the unity of a transcendent corporate life-system or community with three constituent person-members.[43] The divine persons, in other words, undergo continual autogenesis or internal development in becoming more and more a unitary corporate reality in virtue of their interdependent reciprocal relations to one another. That is, the Father is Father only insofar as "He" is distinct from and yet linked to the Son for "His" self-identity, The Son and the Holy Spirit are likewise themselves only insofar as they are distinct from as well as dynamically linked both to one another and to the Father.

In my judgment, this is also what Aquinas had in mind with his understanding of the three divine persons as "subsistent relations" vis-à-vis one another.[44] Aquinas, however, made reference to the term *subsistent relation* as a noun, something existing in its own right. As a result, he ended up with the paradox of three different subsistent realities (Father, Son and Holy Spirit) who are nevertheless still only one God, one individual entity. I, on the contrary, following Whitehead's understanding of the reciprocal relation between actual entities and the society to which they belong, conceive *relation* as a verb, namely, a "relating" of different individual entities to one another so as to constitute a new higher-order corporate reality. With respect to the doctrine of the Trinity, this means that Father, Son and Holy Spirit by their dynamic interrelationship co-constitute at every moment an indissoluble divine community or trans-

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41   Whitehead, *Process and Reality*, 90–91.

42   Terrence W. Deacon, *Incomplete Nature: How Mind Emerged from Matter* (W. Norton, 2012), 182–205.

43   Joseph A. Bracken, *The World in the Trinity: Open-Ended Systems in Science and Religion* (Fortress Press, 2014), 140–41.

44   Aquinas, ST: I, Q. 29, art. 4.

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cendent life-system. Their unity as one God is thus, as noted above, not that of an individual entity but of a higher-order corporate reality existing in its own right.

But, if God is a transcendent life-system and if creation is understood to be the corporate image of God, then creation as a whole must be an enormous but still finite life-system with innumerable subsystems corresponding to all the various entities, living and non-living, to be found in this world.[45] Moreover, as a finite reality vis-à-vis God as an infinite or all-comprehensive reality, creation must exist within God in a qualified sense; it exists within the energy-field co-constituted by the ongoing dynamic interrelationship of the divine persons to one another. This energy-field is in the first place the essence or vital source of activity for the three divine persons in their life together. But in virtue of a free decision on their part, it also serves as the vital source of activity for the world of creation. That is, the Big Bang was an enormous but still finite explosion of energy out of the infinite energy-resources of the divine field of activity. The cosmic process began with a bewildering array of momentary energy-events or "virtual particles." But, after its initial expansion, this cosmic process began to contract and over time to take shape in terms of different atomic configurations. Furthermore, as a finite reality emergent out of the divine field of activity, the created world is necessarily empowered by the same principle of creativity whereby the divine persons as three distinct self-constituted subjects of experience are from moment to moment co-constituents of the corporate reality of the divine life system. As a result, since the cosmic process thus remains dependent upon the divine life-system both for its energy-resources and for divine creativity as its organizing principle of existence and activity, creation from a philosophical perspective is a form of panentheism, that is, both a part of the divine life-system and yet an evolving finite reality in its own right.

Accordingly, the laws of nature that govern the cosmic process were not unilaterally determined by God at the moment of the Big Bang so as to come into play in successive stages by divine design. Rather, the cosmic process gradually developed its own law-like mode of operation in and through an ongoing process of trial-and-error among all the organisms constitutive of the subsystems making up the creative process from moment to moment.[46] Yet the three divine persons still provide directionality and inspiration to all these finite entities in their individual self-constitution and collective world-building activity from moment to moment. Much like the way that parents must put restraints on the behavior of their children so as to preserve the overall pattern of family life for themselves, so the divine persons as the primordial constituents of the divine life-system inevitably influence but do not totally control everything that happens within creation as an evolving cosmic process within their own divine life-system.

But the influence of the divine persons on the activity of their creatures is even more specific than that. Provided that one accepts Whitehead's premise that the "final real things of which the world is made up"[47] are actual entities, i.e., momentary self-constituting subjects of experience, then every actual entity in its brief moment of self-constitution receives from the divine persons an "initial aim" to guide its own "subjective aim" in that process of self-constitution.[48]. Thus the moment of "decision" for an actual entity in its process of self-constitution is the result of reciprocal causation between God and itself. God cannot make that self-constituting decision for the actual entity apart from the "consent" of the actual entity. Likewise, the actual entity cannot make that "decision" simply on its own apart from the initial aim of God for it in the light of God's overview of the total cosmic process at that moment. Thus the classical understanding of primary and secondary causality in the ongoing relations between God and the world is effectively reversed. Primary causality in the occurrence of an event of nature, whether good or evil, is now exercised by the actual entity, not God. God is instead the secondary cause in the occurrence of the event, prompting the actual entity to make a good rather than an evil decision but not coercing it in violation of the actual entity's integrity as a self-constituting subject of experience from moment to

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45   Bracken, *The World in the Trinity*, 75–89.

46   Alfred N. Whitehead, *Science and the Modern World* (Free Press, 1967), 110–12.

47   Whitehead, *Process and Reality*, 18.

48   Ibid., 244–45.

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moment. As a result, the long-standing question of how natural and moral evil can exist within a world created by a loving God is resolved. Not God but creatures (human and non-human) with their power of self-constitution are primarily responsible for the existence of evil in this world. God's role is basically to do "damage-control" in terms of the inevitable negative consequences of sinful decisions on the part of their creatures. From a Whiteheadian perspective, this is not an impossible task.

For, in virtue of their ongoing intersubjective relation with the world of creation, the three divine persons comprehend at each moment all the actual entities coming into existence within the cosmic process together with their individual self-constituting decisions. The divine persons then integrate this collective pattern of existence and activity for the cosmic process of a moment ago into their own divine consequent nature so as to offer the next set of finite actual entities within the cosmic process appropriate "initial aims" for their own "subjective aims" at self-realization. "What is done in the world is [thereby] transformed into a reality in heaven, and the reality in heaven passes back into the world."[49] In this way, God exercises providence over the world as it progresses from one moment to the next. Without denying the freedom of the actual entities coming into existence at any given moment, God gives the entire cosmic process a higher-order directionality whereby nothing is lost and even what in the world would be considered "mere wreckage" will be saved, i.e., somehow integrated into the long-term workings of Divine Providence for Creation as an integral finite component of the overall divine life-system.[50]

But is not such an understanding of the God-world relationship still a form of pantheism, a doctrinal belief explicitly rejected by the Roman Catholic Church at the First Vatican Council in 1870?[51] On the contrary, I claim that the systems-oriented form of Trinitarian panentheism that I have set forth in this paper still allows for the reality of God apart from the world and for the reality of the world in its own right apart from its inclusion within the divine life-system. To illustrate what I have in mind here, I note how a systems-oriented understanding of the Christian doctrine of the Incarnation likewise makes good sense if one is seeking a rational explanation of an otherwise paradoxical belief. The classical text on the Christian doctrine of the Incarnation at the Council of Chalcedon reads as follows:

> We confess one and the same Christ, the Son, the Lord, the Only-Begotten, in two natures unconfused, unchangeable, undivided and inseparable. The difference of natures will never be abolished by their being united, but rather the properties of each remain unimpaired, both coming together in one person and substance, not parted or divided among two persons, but in one and the same only-begotten Son, the divine Word, the Lord Jesus Christ.[52]

If, however, in place of two "natures" one substitutes two "systems" in the wording of the Chalcedonian decree, one has in my judgment a more rationally plausible explanation of the doctrine of the Incarnation than that put forward by Aquinas and others in the scholastic tradition. That is, as noted above, the divine and the human natures of Jesus as the Incarnate Word of God are "unconfused, unchangeable, undivided and inseparable." If these two life- systems, the one divine and the other human, work in harmonious interaction, then there is no contradiction in claiming that Jesus is still "one person and substance, not parted or divided among two persons." Jesus as the Word Incarnate is the ongoing unity of two dynamically interrelated subsystems, the one proper to his reality as the Incarnate Word, namely, the divine life-system that he shares with the other two divine persons, and the other proper to Jesus as a member of the human life-system that he shares with all other human beings. One cannot, however, so readily combine two natures in the classical sense within one and the same individual entity. For a nature in the classical sense defines the ontological identity of the individual entity, its essential difference from other kinds of entities. There is logically no way for the individual entity to take on still another ontological identity without ceasing to be what it is right now in terms of its present identity.

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49   Ibid., 351.
50   Ibid., 346.
51   Josef Neuner and Heinrich Roos, *The Teaching of the Catholic Church as contained in her documents* (Alba House, 1967), 117.
52   *Teaching of the Catholic Church,* 154.

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Moreover, such a reciprocal causation between the divine life-system and the human life-system at work in Jesus during his earthly life can be considered as an instance of autogenesis in the sense defined above by Deacon: "In autogenesis, it is not just constituents [open-ended systems] that are joined in a reciprocally productive loop, but the *constraints* that each process generates, because each of these processes generates boundary constraints that make the other process possible."[53] Applying this understanding of autogenesis to the doctrine of the Incarnation, one can say that everything that Jesus said and did during his earthly life was jointly accomplished in and through the workings of both the divine and the human life-systems. But clearly there were times when the limitations of Jesus' human life-system put constraints on the normal workings of his divine life-system at the same time. Jesus felt fatigue at the end of a long day, needed food and drink on a daily basis, experienced joy and sadness in terms of the responsiveness of others to his words and actions, etc. At other times, Jesus's divine life-system enabled him in his human nature to preach with great effectiveness to the people of his day and to perform miracles when the moment was right for manifestation of the triune God's love and concern for their creatures. But this only happened because Jesus was living and working within two life-systems at the same time every moment of his life.

VI. CONCLUDING REMARKS

There are many other implications for Christian systematic theology if one takes seriously a systems-oriented understanding of the God-world relationship. For example, from a systems-oriented approach to reality, should the Incarnation of Jesus as the God-Man be interpreted as a singular miraculous event in the history of the God-world relationship or should it to be understood as the high-point in a historical process that began with the Big Bang but will not be completed until the end of the world? For only then will the full reality of Jesus as the Word Incarnate become apparent, namely, as the. Cosmic Christ in Whom all things in heaven and on earth hold together.[54] In a recent article for *Theology and Science*, the Danish philosopher/ theologian Niels Henrich Gregersen posed the question *Cur Deus caro?* (rather than with Anselm of Canterbury *Cur Deus Homo*) and then answered: "God became flesh for the purpose of reconciling humanity with God, and of conjoining God and the world of creation so intensely together that there can be a future also for a material world characterized by decomposition, frailty and suffering."[55] With that statement, I am in full agreement. But I further argue that this highly creative insight is best understood within a systems-oriented approach to the God-world relationship wherein attention is primarily given to ongoing systems rather than to individual entities engaged in unique individual events. For, while individual entities are the indispensable components of systems, the enduring meaning and value of individual entities and the events associated with them can only be assessed in the light of the system within which they arise and to which they contribute at every moment. The human life of Jesus at any given moment is thus fully understood only in terms of the life-system proper to Jesus as the Word Incarnate, and the life-system proper to Jesus as the Word Incarnate is in turn a subsystem within the life-system proper to all three divine persons. In a word, the world is "saved" through full incorporation into the life of the Trinity, not simply through union with one of the divine persons.

This paper, however, should not be over-extended. In my judgment, its basic hypothesis has already been set forth in sufficient detail: namely, that reciprocal causation between God and the creatures of this world rather than unilateral efficient causation by God vis-à-vis those same creatures should be the governing principle of a contemporary understanding of the Christian God-world relationship. However well-intentioned Aquinas was in using the Aristotelian scheme of material, formal, efficient and final causality to set forth his Christian understanding of the God-world relationship as *creatio ex nihilo* (God's exercise

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53   Terrence W. Deacon and Tyrone Cashman, "Teleology versus Mechanism in Biology: Beyond Self-Organization", in *Beyond Mechanism: Putting Life Back into Biology*, ed. Brian G. Henning and Adam C. Scarfe (Rowman & Littlefield, 2013), 299.

54   NAB: Col. 1:12.

55   Niels H. Gregersen, "Cur deus caro Jesus and the Cosmos Story", *Theology and Science* 11, no. 4 (2013): 375.

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of unilateral efficient causality to effect the total being of the creature without preconditions), it was in my judgment a serious mistake.

First of all, there is virtually no resemblance between the God of Biblical revelation and Aristotle's Unmoved Mover apart from the metaphysical presupposition that God and the Unmoved Mover represent Perfect Being, i.e., Pure Actuality. Yet Aristotle's notion of God as Pure Actuality is logically derivative from Plato's presupposition of a world of unchanging Ideas that are transcendent of the world of ever-changing material reality. It is accordingly not linked to Biblical belief that the triune God acted out of love in bringing this world into existence and continues to exercise loving care over all the creatures of this world. In addition, Aquinas failed to see that Aristotle's four-fold causal scheme works best in the context of a craftsman giving shape to wood, stone, or some other inanimate material stuff for some purely extrinsic purpose. Thus it is not well suited to explain how human beings and other living creatures can spontaneously respond to God's grace and enter into a reciprocal relation both with God and with one another. Finally, Aquinas raised the problem of theodicy without being able to solve it simply by using the Aristotelian categories of material, formal, efficient and final causality. For, on the assumption that God is primary cause of whatever happens in this world, then God inevitably bears greater responsibility than creatures for whatever evil that subsequently occurs. As a result, Aquinas could only appeal to the mystery of divine providence for the world as something beyond human comprehension. The point of this paper, however, has been to resolve at least some of the mystery of the God-world relationship by employing the categories of a new and different philosophical cosmology, one based on a process- or systems-oriented approach to reality. After all, nothing ventured, nothing gained.

BIBLIOGRAPHY

Aristotle. 1928. *Physics: The Works of Aristotle*. Edited by W. D. Ross. New York: Clarendon Press.

—. 1930. *Metaphysics: The Works of Aristotle*. Edited by W. D. Ross. New York: Clarendon Press.

Bracken, Joseph A. 2014. *The World in the Trinity: Open-Ended Systems in Science and Religion*. Minneapolis, MN: Fortress Press.

Deacon, Terrence W. 2012. *Incomplete Nature: How Mind Emerged from Matter*. New York: W. Norton.

Deacon, Terrence W., and Tyrone Cashman. 2013. "Teleology versus Mechanism in Biology: Beyond Self-Organization". In *Beyond Mechanism: Putting Life Back into Biology*, edited by Brian G. Henning and Adam C. Scarfe, 287–308. Lanham, MD: Rowman & Littlefield.

Edwards, Denis. 2010. *How God Acts: Creation, Redemption, and Special Divine Action*. Minneapolis: Fortress Press.

Ferngren, Gary B., ed. 2002. *Science and Religion: A Historical Introduction*. Baltimore: Johns Hopkins Univ. Press.

Gregersen, Niels H. 2013. "Cur deus caro Jesus and the Cosmos Story". *Theology and Science* 11, no. 4: 370–93. doi:10.1080/14746700.2013.836891.

Hartshorne, Charles. 1936. "The Compound Individual". *Philosophical Essays for Alfred North Whitehead,* 193–220. New York: Russell & Russell

Jones, W. T. 1952. *A History of Western Philosophy: Volume I: The Classical Mind*. New York: Harcourt, Brace & World.

—. 1952. *A History of Western Philosophy: Volume II: The Medieval Mind*. New York: Harcourt, Brace & World.

Kaufman, Gordon D. 2004. *In the Beginning … Creativity*. Minneapolis, MN: Fortress Press.

McFague, Sallie. 1987. *Models of God: Theology for an Ecological, Nuclear Age*. Philadelphia: Fortress Press.

Moore, James. 2002. "Charles Darwin". In *Science and Religion: A Historical Introduction*, edited by Gary B. Ferngren, 208–18. Baltimore: Johns Hopkins Univ. Press.

Neuner, Josef, and Heinrich Roos. 1967. *The Teaching of the Catholic Church as contained in her documents.* Translated by Geoffrey Stevens. Staten Island, NY: Alba House.

THIS IS A DRAFT! PLEASE DO NOT CITE.

ALWAYS REFER TO THE VERSION PUBLISHED IN EUROPEAN JOURNAL FOR PHILOSOPHY OF RELIGION, VOL. 10, NO. 4, PP. 119–139.

Numbers, Ronald L. 2002. "Cosmogonies". In *Science and Religion: A Historical Introduction*, edited by Gary B. Ferngren, 234–41. Baltimore: Johns Hopkins Univ. Press.

Osler, Margaret J. 2002. "Mechanical Philosophy". In *Science and Religion: A Historical Introduction*, edited by Gary B. Ferngren. Baltimore: Johns Hopkins Univ. Press.

Peacocke, Arthur R. 1995. "Chance and Law in Irreversibe Thermodynamics, Theoretical Biology, and Theology". In *Chaos and Complexity: Scientific perspektives on divine action*, edited by Robert J. Russell, Nancey C. Murphy and Arthur R. Peacocke, 123–45. Vatican City State: Vatican Observatory Publ.

Polkinghorne, John. 1995. "The Metaphysics of Divine Action". In *Chaos and Complexity: Scientific Perspectives on Divine Action*, edited by Robert J. Russell, Nancey C. Murphy and Arthur R. Peacocke, 147–56. Vatican City State: Vatican Observatory Publ.

Rupke, Nicholas A. 2002. "Geology and Paleontology". In *Science and Religion: A Historical Introduction*, edited by Gary B. Ferngren, 179–84. Baltimore: Johns Hopkins Univ. Press.

Russell, Robert J. 2008. *Cosmology: From Alpha to Omega The Creative Mutual Interaction of Theology and Science*. Minneapolis, MN: Fortress Press.

Russell, Robert J., Nancey C. Murphy, and Arthur R. Peacocke, eds. 1995. *Chaos and Complexity: Scientific Perspectives on Divine Action*. Vatican City State: Vatican Observatory Publ.

Westfall, Richard S. 2002. "Isaac Newton". In *Science and Religion: A Historical Introduction*, edited by Gary B. Ferngren, 153–162. Baltimore: Johns Hopkins Univ. Press.

Whitehead, Alfred N. 1967. *Science and the Modern World*. New York: Free Press.

—. 1978. *Process and Reality: An Essay in Cosmology*. corr. ed. Edited by David R. Griffin and Donald W. Sherburne. New York: Free Press.