From this perspective Bontadini interprets the Aristotelian metaphysics in this way that its object, "being qua being", would be the things in movement and change and that the first transcendent cause, the divine substance the essence of which is thinking itself, is in fact the principle of our thinking experience of the things in change. However, this interpretation fails the proper sense of the Aristotelian texts in two regards: 1. considering the empirical things "as being" means exactly not consider them in their movement and change but in their being. 2. Aristotle does not offer a metaphysics of human experience (likely to Kant's transcendentalism as theory of experience) but a metaphysics of a transcendent substance. The first cause (Metaph. XII) is to be understood not as the pattern of our reflecting thought but as a first transcendent substance to which Aristotle attributes intellective divine activity, by conclusion, which underlines the essential difference between human and divine intellect.

In Defense of Double Agency in Evolution: A Response to Five Modern Critics

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Introduction: Divine Action in Contemporary Theology

God acts in the world. That this is true is an ancient Christian conviction affirmed every time anyone prays that the Father's will be done on earth as it is in heaven. Understanding how this is true, however, is an ongoing work of theology that in recent years has been taken up in earnest by scholars in the science-and-religion dialogue. One has only to witness the profusion of books and articles written on divine action to appreciate the great interest that has been given to this subject. These studies have been fueled by the ongoing discoveries in the natural sciences that emphasize the radical contingency of our evolving world. How does God act in this type of dynamic world?

In this essay, I will focus on the narrower question of divine action in the evolutionary process that gave rise to the 10-100 million extant species of life which populate our planet today. Here again, scientific work on the story of life has shown that it is a narrative permeated with stochastic processes governed primarily by serendipity. To put it another way, evolution is a sequence of chance events, a series of accidental intersections of two causal chains. For

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1 This conviction was defined a dogmatic truth of the Catholic faith by Vatican I in its Dogmatic Constitution Dei Filius on the Catholic Faith (1870): "By his providence, God protects and governs all things which he has made, reaching mightily from one of the earth to the other, and ordering all things well. For all are open and laid bare to his eyes even those things which are yet to come to existence through the free action of creatures." (DS 3003; cf. Catechism of the Catholic Church, nos. 302ff.)
2 For a fairly recent and concise overview of the field, see ROBERT JOHN RUSSELL, "Does 'The God Who Acts' Really Act? New Approaches to Divine Action in Light of Science", in Theology Today 54 (1997), 43. In my opinion, the most important essays written on divine action within the science-and-religion dialogue can be found in the five-volume series, Scientific Perspectives on Divine Action, published by the Vatican Observatory and the Center for Theology and the Natural Sciences, Berkeley, CA, between 1993 and 2002.
instance, a recent scientific paper published in the prestigious journal, *Nature*, argues that one or at most two genetic mutations in the FOX2 gene that occurred sometime during the last 200,000 years of human existence is responsible for conferring upon human beings the physiological capacities to develop a proficient spoken language. Genetic mutations of the type associated with FOX2, however, are usually caused by one of two processes: random errors in DNA synthesis or random errors in the repair of DNA damaged by chemical mutagens or high-energy radiation. Both processes are mediated by the error-prone molecule, DNA polymerase. Thus, it would seem that the appearance of language, an essential element of human nature, was a completely unpredictable event. From this, it should not take much more to see that, from the perspective of evolutionary biology, the appearance of our own species, *Homo sapiens*, must also be a random and unpredictable event. Critics of Christianity have taken this and the other experimental results which point to the pervasiveness of chance in the evolutionary process to argue that from within a worldview that takes science seriously, divine providence, the notion that God causes and preordains all things from all eternity, is unintelligible. Even the believer may be tempted to ask: Given the random origins of human FOX2, did God really act here? If so, how did he act?

To show that the truths of revelation are intelligible, several paradigmatic models for divine action in an evolving universe have been proposed by contemporary theologians working in the science-and-religion dialogue. The work of five theologians will be discussed here. First, appealing to insights gleaned from chaos theory, John Polkinghorne has argued that God acts in the world by influencing 'dynamic patterns' or 'overall contexts' by determining the initial conditions of systems rather than by means of transactions of energy. In contrast, as panentheists, Arthur Peacocke and Phillip Clayton, in different ways, have proposed that God acts in the world in a radically intimate fashion - since God is present in every physical interaction and at each point in space, each interaction is a part of his being in the broadest sense of the word. For Clayton, God can act on any part of the world in a way similar to the way we act on our bodies. Next, Nancy Murphy has proposed a bottom-up account of divine action where God governs each event at the quantum level in a way that respects the "natural rights" of the entities involved. God's action is such that these events rooted in the quantum indeterminacy accumulate in regular ways manifesting themselves as visible actions at the macro-level. Finally, as a process thinker, Ian Barbour has suggested that God and the world should best be described by interpersonal social models where reality is seen as a community of interacting beings who affect and are affected by each other. God is the creative participant in this society who provides the basic structure and the novel possibilities for all the other members of the group.

As I read them, two points unite these diverse accounts of divine action: they are similar in their common origin and their common end. First, these models were constructed because their creators had all rejected the theory of divine action as double agency - the solution proposed by classical Western theology - as incoherent or inadequate. According to this classical model of divine action, God acts in the world as a universal and primary uncreated cause acting through secondary created causes. In this essay, I will argue that the five theologians mentioned above have failed to properly understand classical double

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7 Stephen Jay Gould has written: "It seems the height of antiquated hubris to claim that the universe carried on as it did for billions of years in order to form a comfortable abode for us. Chance and historical contingency give the world of life most of its glory and fascination. I sit here happy to be alive and sure that some reason must exist for 'why me?'. Or the earth might have been totally covered with water, and an octopus might now be telling its children why the eight-legged God of all things had made such a perfect world. Sure we fit. We wouldn't be here if we didn't. But the world wasn't made for us and it will endure without us." See his, *Pleasant Dreams*, An Urchin in the Storm. New York, W. W. Norton, 1987, 206.
13 The term 'double agency' was coined by Austin Farrer to refer to events that were purposed to be completely due both to divine causality and to human causality. See his *Faith and Speculation*. New York, New York University Press, 1967. This resonates with the Thomistic view to be described below which explains divine action by distinguishing between primary and secondary causality. However, in contrast to the classical account, Farrer does not ground his understanding of double agency in the metaphysically rich notion of causality associated with the Thomistic tradition. This absence makes all the difference in the world. To distinguish Farrer's account of double agency with St. Thomas' version, I will refer to the latter as 'classical' double agency.
agency and the metaphysically rich account of causality which it presupposes. When double agency is cast within the classical framework of Western theism especially as it was articulated by St. Thomas Aquinas, it remains a coherent and fruitful theological explanation for divine action in an evolving world. 14

Second, these contemporary models of divine action all seek to explain what one theologian has called "noninterventionist objective special divine action." 15 In other words, all these accounts are attempts to construct a view of divine providence that holds that God acts in the world objectively and that he does so without intervening in or suspending the laws of nature. This is their common end. The five theologians do this by proposing either that God works within the bounds of nature (Polkinghorne, Murphy, and Barbour) or that nature works within God (Peacocke and Clayton, and in a sense, Barbour as well). In doing this, however, all of these thinkers had to reject some basic tenet of traditional Christian theism. Polkinghorne and Murphy deny God's knowledge of the future, which remains radically open, while Peacocke, Clayton, and Barbour deny his transcendent divinity as it has been traditionally conceived. In response, in this essay, I will argue that classical double agency allows one to accomplish the task of explaining noninterventionist objective special divine action without denying either the mystery of divine providence where God knows all events past, present, and future, or the radical distinction between the Creator and his creatures, the very distinction which, Sokolowski convincingly proposes, defines Christianity as the religion that it is. 16

Sacra Doctrina, God, and Classical Double Agency

As Kathryn Tanner has correctly pointed out, the classical account of double agency as it was understood by St. Thomas Aquinas cannot be properly understood outside the theological worldview from which it was conceived. 17 In a broad sense, St. Thomas himself would have agreed. He notes in his Summa theologiae that articles of faith cannot be properly explained to someone who does not have faith. 18 In other words, to properly understand Christianity, one must be a believing Christian. Thus, our study of classical double agency - or indeed, of any aspect of Thomistic thought - has to begin with a proper understanding of the Angelic Doctor's theological perspective. Most important, I would propose, is his conviction that theology has to be properly understood as sacra doctrina, sacred doctrine, which seeks first and foremost to understand God. 19 Theology is discourse about God (sermo de Deo), and it is God who is the proper object of theology. To put it another way, theology is about the divine perspective. Everything else is secondary. In fact, according to St. Thomas, every other being falls under the purview of theology only because it refers to God as its beginning or end. 20 Understanding this theological presupposition is crucial for our study because it stands in stark contrast to the view held by many, if not most, contemporary theologians who would not see theology in this way. As is commonly acknowledged, theology took a subjective turn after the Enlightenment with its rejection of classical metaphysics. Today, I would venture to say that theology is properly understood to be about God not as he is in himself but only as he is knowable to us. In other words, modern theology is about the human experience of the sacred. God is secondary. The implications of this radically anthropocentric view of theology, especially its effect on the modern understanding of double agency, will become more apparent below. For now, however, we simply note that St. Thomas and his account of double agency can only be appreciated if we bracket this modern perspective with its anti-metaphysical bias.

Sacra doctrina is about God. Accordingly, before discussing divine action, we first need to discuss God. As the scholastic principle put it, every agent only acts according to its nature. Therefore, in the case of divine agency, we have to talk about the Divine Agent. We have to talk about God. In doing this, we follow in the footsteps of the Angelic Doctor who, it is said, never ceased to pester his childhood teachers with the simple question: Quid est Deus? What is God? The passionate drive to answer this question propelled St. Thomas to the heights of contemplative prayer and to a profound insight of theological brilliance: After a careful metaphysical analysis of certain features of creation, he articulated that God must be unlike any other being in the world if he is to be its cause. He alone must be ipsum esse per se subsistens, a subsistent act of

14 As Terence Nichols has shown, the Thomistic account of classical double agency has been the prevalent model of divine action in Catholic theology until recently. See his "Miracles, the Supernatural and the Problem of Extrinsicism" in Gregorianum 71 (1990), 23.
16 ROBERT SOKOLOWSKI, The God of Faith and Reason. Washington, DC, Catholic University of America Press, 1995. Note that the Christian distinction, the radical difference between the Creator and his creatures, was defined in an article of the Catholic faith by Laternum IV: "Between Creator and creature no similitude can be expressed without implying an even greater dissimilitude" (DS 806; cf Catechism of the Catholic Church, no. 43).
18 ST THOMAS AQUINAS, Summa theologiae, New York, Benziger, 1947, Ia, 1, 8.
20 Ibid.
This insight about God lies at the heart of Thomistic theology. Everything else including St. Thomas' understanding of double agency flows from this definition of God.

A modern may ask: why should we even bother with St. Thomas' formulation of God as ipsum esse, subsistent existence? One response is to point to its great explanatory power and its ability to unify an enormous amount of theological data. Understanding God in this way has illuminated many aspects of the Christian tradition. It is a proposition that lies at the heart of a coherent theological synthesis. Two facets of this vision will be highlighted here because they are intimately related to St. Thomas' account of divine agency. First, understanding God as self-subsistent existence has clarified the received view of God articulated by the Church as she has reflected upon Sacred Scripture. Second, it has clarified the Christian distinction that observes a radical difference between the Creator and his creatures.

First, there is the clarification of our understanding of God. According to St. Thomas, God is simple, perfect, good, infinite, immutable, eternal and one - the divine attributes found in the Tradition - because by nature, as a being of pure act, he does not have and cannot have any potencies waiting to be actualized. Saying these things, however, does not mean that we understand what God is. As a self-subsisting act of existing, God is a radically unique type of being. Thus, according to St. Thomas, we should not expect the human intellect to comprehend the uncreated God since its knowledge of things is limited by its created nature. So, God will always surpass anything that we as creatures can know about him. We do not and cannot comprehend him. In fact, we come to know God more the more we understand that he exceeds everything we can understand about him. Thus, St. Thomas will conclude that we are limited to knowing what God is not, rather than what he is. As we shall discuss below, many contemporary theologians, failing to see this, misunderstand the proper implications of St. Thomas' account of double agency.

Judging God to be ipsum esse per se subsistens also clarifies the distinction between the Creator and his creatures. As noted above, for St. Thomas, God alone is self-subsistent existence. In contrast, all other beings, all other creatures, are not God precisely because their act of existing has been received from God who alone is self-existing. In scholastic terminology, the esse of every creature (esse commune) is a participation in the esse who is God (esse divinum). Accordingly, there is an intimate relationship between creation and its Creator. This would explain the empirically verifiable contingency of a universe that could have been otherwise - it is the product of a creative act of a personal agent. Here, St. Thomas provides an answer to Stephen Hawking's quest for an explanation for the intelligibility of the ordered universe.

Significantly, the distinction between Creator and creature as beings with self-subsistent and derived acts of existing respectively also protects the integrity of both the Creator and the creature. In other words, within the Thomistic conceptual framework, the creature is able to have a distinct and in a qualified sense, independent nature without severing its dependence upon its Creator. The creature's nature is distinct from the divine nature because it has its own essence which it receives from God. However, it remains radically dependent upon that same divine nature for its existence. Consequently, the creature, because it possesses its own nature, is able to act according to that nature as a true cause without violating the Creator-creature relationship. In this way, the creature can claim some autonomy in its actions. Indeed, St. Thomas argued that it is fitting and proper that God create creatures that can act as true causes since this better reflects his power. It manifests a greater benevolence to impart causality than to withhold it. To illustrate this using a crude analogy, note that in a sense, it would be more fitting for God to make a book write itself rather than to write it himself, since only he could accomplish the former while...
even rational creatures could accomplish the latter. Thus, for the Angelic Doctor, God is the primary cause giving existence to creatures who, acting according to the powers of their natures, are true secondary causes.

With St. Thomas' theology of creation in mind, we can now turn to a more in-depth discussion of his account of double agency. God acts in the world as a primary cause working through secondary created causes. As discussed above, this account of divine action is rooted in the divine act of giving existence to a creature's nature and its associated powers. In an analogous sense—and I stress the analogous here—God is like the carpenter who makes a puppet. It is only an analogy because God in creating the puppet gives the puppet its own nature in a way Geppetto could never have created Pinocchio. It is only God who is able to both make the craftsman and his making of the puppet. Thus, divine causality cannot be understood as efficient causality as we see it within the creaturely realm. When God acts as efficient cause in creating a creature, he does not make it move or as creatures agents would make things they create, move. Rather God makes the creature movable so that it can move itself. Further, as Creator, God is not simply the efficient cause for the existence and actions of his creatures. Since he gives each creature its nature, he is also responsible for its material, formal, and final causes. First, by making a being a particular existing kind of thing here and now, God specifies its material and formal cause. Next, by giving a being a nature which is ordered to a particular end, God acts as its final cause in that the good the creature seeks is a likeness of the divine perfection and goodness. Thus, when a creature acts, God acts in and through it by sustaining it in existence and giving it the nature that is the principle, the source, of its actions. All of these facets of classical double agency are only possible because God is self-subsistent existence.

Finally, we must deal with double agency and the question of the existential nature of both physical events and personal actions in the world. If God acts through every event in the universe as a primary cause working through true secondary causes, then can any event be truly random or contingent or, with respect to created persons, free? To respond to these questions, we must first note that technically, it is not adequate to say that God knows existing things from their coming to be. As a being of pure act, God does not know passively as created persons know. In fact, since his acts of knowing and of willing are the same act, indistinguishable from the act of existing that is his essence, God's act of knowing is identical to his act of creating. Thus, it is more accurate to say that existing things exist precisely because God knows them as existing. Further, God knows each existing being in all its existential particularities. Accordingly, events are contingent because God, in knowing them as contingent, gives them existence, precisely as contingent events. He wills them to be contingent in assigning them contingent causes and he wills them to be such because of his wisdom and goodness to create a diverse universe. In the same way, events are necessary because God knows and wills them as such. And most significantly, human persons are free and capable of free acts only because God knows them as free creatures with powers and capacities that are by nature, free. In sum, God as ipsum esse per se subsistens is able to act as a true cause without violating the natures of things precisely because he is the source of their existence and the end of their striving.

**Double Agency in Evolution**

It should now be clear that divine action described as double agency is compatible with an evolving world of contingent and serendipitous events. The perceived problem of reconciling a changing world and a non-changing God who are in relationship with each other is a non-starter. The created order is an evolving one precisely because God knows it as evolving and gives it existence as such. Thus, there will always be a radical relationship of existential dependency of creature on Creator. Within the context of this relationship, God acts through every being as First Cause by giving it both its existence and the particular nature that empowers that being to act in its species-specific way. He also acts through every event as First Cause by giving that event its existence precisely as contingent, necessary, or free. In sum, God is the cause

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31 To illustrate this point using an often cited example, note that when a carpenter makes a saw he makes it out of a particular material, say steel instead of plastic (its material cause), and in a particular way, say with a serrated edge rather than a smooth edge (its formal cause), because he intends it to cut wood (its final cause). In a loose manner, one can say that he gives the saw its "nature" because he wishes to use it to accomplish a particular task. Similarly, God in creating a creature gives it a nature that has a dynamic tendency towards its own perfection as an end.

32 *Summa theologica* Ia, 19, 8. Here, to say that something happens by chance is simply to say that it is not determined by some particular kind of natural or physical cause. To say that something happens contingently is to say that its proximate causes are not sufficient to determine it uniquely. (cf. *Summa theologica* Ia, 103, 7). See WILLIAM P. ALSTON, "God's Action in the World," in *Evolution and Creation* ed. Ernan McMullin. Notre Dame, IN; University of Notre Dame Press, 1985, 197-220.

33 For discussion, see BRIAN J. SHANLEY, O.P., "Divine Causation and Human Freedom in Aquinas" in *American Catholic Philosophical Quarterly* 72 (1998), 99.

34 *Summa theologica* Ia, 105, 5.
of all action because other beings can act only because they have essences and acts of existence that come from him.

Returning to the evolution of human FOXP2, let us say for the sake of discussion that the mutation which gave rise to language use occurred when a particular DNA polymerase was repairing a DNA strand damaged by high energy radiation. According to the classical account of double agency, God acts in this event as efficient cause because he gives the DNA strand and the DNA polymerase their existence. Furthermore, he gives them their natures. The DNA strand can be repaired by the DNA polymerase because God made them what they are. Indeed, the DNA polymerase was able to introduce a random mutation into the FOXP2 gene precisely because God knew it and thus created it as error-prone and capable of randomly making mistakes. In introducing the genetic mutation into the DNA strand, the polymerase was functioning according to its nature. It was striving for its end that was established by God as Final Cause.

Finally, the mutagenic event can be said to be ordained from all eternity, and in this sense be providential, because in knowing the DNA polymerase as error prone, God knows it as error-prone and existing at a particular time and place. The random event which gave rise to human FOXP2 occurred at the time and place that it did because God knew it and allowed it to exist precisely as happening in our past rather than in our present or in our future. For God, however, all these created temporal events are present to him simultaneously in the eternal hic et nunc. Evolution understood within the perspective of classical theism would consist of innumerable events of this type where God working as First Cause determines, as only God can in an analogous and uniquely divine sense, the course of events, including the disappearance and appearance of disparate species, by working through natures and individuals which he has brought into existence at particular times and places.

Five Modern Critics of Classical Double Agency: Objections and Responses

Three kinds of objections have been put forward against classical double agency. First, its critics have argued that double agency explains nothing. John Polkinghorne, following Arthur Peacocke, is one of these critics. Describing double agency (especially as it was formulated by Austin Farrer), he writes:

The secondary web of created causality is treated as being complete and unriven. Yet the primary causality of God is supposed nevertheless to be ineffably at work in and through these created causalties. How this is so is not explained. Indeed Farrer would regard it as risking monstrosity and confusion if one were to attempt to discern the “causal joint” by which divine providence acts. It is not clear to me what is gained by so apophatic an account of God’s action. In the end, the answer seems to be “God only knows.” I agree with Arthur Peacocke’s judgment on the paradox of double agency that it “comes perilously close to that mere assertion of its truth.”

Elsewhere, Polkinghorne complains that double agency is theological double speak because it reduces theological discourse to two language games:

[Some of us feel that the deep obscurity involved in the idea of double agency, operating simultaneously through both primary and secondary causalties, carries with it the danger that the discussion might turn out to be no more than double talk. [...] The strategy represents an extreme case of a “two-languages” approach to understanding how theology and science relate to each other. Their discussions are treated as independent, so that they can talk past each other at different levels of discourse. The two disciplines might then be considered as presenting two different paradigms or involving participation in two different language games.]

So, is double agency just a matter of meaningless propositions?

To respond, I would point out that language reflects reality. Polkinghorne is troubled because the explanation for divine action proposed by double agency is not clear: How exactly does God work through secondary causies? How exactly can God work as an efficient cause in personal action without violating the freedom of free creatures? When asked about mechanism, however, the proponent of double agency can only respond with silence. Polkinghorne interprets this silence as surrender that is “only to be undertaken if it proves impossible to make any satisfactory conjecture about the

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causal joint of God’s agency.”38 He adds, “I do not believe we are in so desper­ate a case.”

Polkinghorne (and Peacocke), however, have failed to fully understand the account of classical double agency. Again, language reflects reality, and the medi evals recognized this. Thus for them, the silence of double agency so criticized by these two modern theologians is simply the recognition that the human intellect is unable to describe divine action in as much detail as one would expect with creaturely action precisely because it lies beyond our ken. To claim that we should be able to explain divine action in detail comparable to that found in a description of human action is to already presume that they belong to the same order of reality. This presupposition is symptomatic of the anthropocentric stance of contemporary theology. However, it is not reasonable: God is God and we are not.

Similar scenarios involving an inability to adequately explain phenomena beyond our experience occur in everyday life. Imagine trying to explain either color to an individual born blind or snow to someone from the Sahara desert. Though one could talk about different wavelengths of radiant energy or crystalline structures of water which obey the laws of fractal geometry, these explanations would forever remain opaque to the listener. The clarity and precision of explanations presume some experience of what is being explained. Even in science— even in the quantum physics so dear to Polkinghorne’s heart—this is true. Who can really claim that he understands the quantum description of an electron?39 What does it really mean to say that an electron is both a particle and a wave, or that a single electron particle can simultaneously move through two adjacent slits in a wall? To the ordinary person (and I would even daresay, to the quantum physicist), the particle-wave explanation for the electron is opaque.40 It is not completely intelligible because it is apophatic— the only real claim of the quantum explanation is that an electron is neither a particle nor a wave. It is something else. It is apophatic language that is acceptable to the scientist because it reflects a mathematical reality that is beyond our own everyday non-quantum, macrolevel experience. If this is acceptable,

40 As physicist and theologian, Ian Barbour has noted, the atomic particle of quantum theory cannot be pictured at all: “[N]o unified model of the atom has been developed in quantum theory. [...] The atom is inaccessible to direct observation and unimaginable in terms of sensory qualities; it cannot even be described coherently in terms of classical concepts such as space, time and causality.” See his Religion and Science, 167.

then a fortiori, should not our apophatic descriptions of the activities of a Being who is an eternal, immaterial, personal act of self-subsisting existence— a Being forever beyond our human experience—also be acceptable?

Polkinghorne could retort that the apophatic language of quantum physics is acceptable only because it preserves the unified mathematical formulation of the quantum world. What does the apophatic language of double agency preserve? Simply, the apophatic language of double agency protects the transcendence of God. It preserves his identity as ipsum esse per se subsistens. However, it does so precisely in order to preserve his immanence. Only a God who is self-subsistent existence, according to St. Thomas, can create ex nihilo and then sustain existing things. More importantly, only a God who is self-substantive existence can ultimately save us because only this type of God can work from within to radically transform the Christian into a saint capable of believing perfectly, hoping perfectly and loving perfectly. As noted above, Polkinghorne writes: “It is not clear to me what is gained by so apophatic an account of God’s action.” Simply, for St. Thomas, our existence and our salvation.41

Second, its critics have argued that double agency leaves no place for miracles. Nancey Murphy writes that the approach of double agency has sought to hold divine action and natural causation together: God acts in and through the entire created order. However according to Murphy, this approach “leaves no room for any sort of special divine action.”42

In my view, Murphy has not appreciated the richness of classical double agency and its associated account of causality. According to this account of divine action, God acts in the world as a primary uncreated cause acting through secondary created causes. This, however, does not exclude God’s acting directly in the world as a primary unmediated cause. Thus, miracles, or direct special divine actions as they are called today, would involve a mode of God’s action in the world where he chooses to produce the effects of secondary causes without them or by producing certain effects to which secondary causes do not extend.43 To illustrate this, note that normally, the President as commander-in-chief effects his wishes through the chain-of-command within the military. However, this does not preclude him from bypassing his gen-

41 It is interesting to note the link between St. Thomas’ account of divine agency and the Catholic conviction that justification involves the radical interior transformation and de­ficiation of the Christian. I would claim that any account of divine action that seeks to be faithful to the Catholic tradition must be able to explain God’s work in the process of sanc­tification described and experienced by the Church’s saints and mystics.
43 Summa theologica, Ia, 105, 6.
erals and officers and taking command of a platoon on the battlefield. In the same way, God normally works through secondary created causes. However, he is still free to act directly when necessary. Not surprisingly, the classical account of double agency is open to the miraculous.

This reply should also sufficiently respond to the apparent objection made by Ian Barbour who has contended that it is problematic that with double agency, creation and redemption are contrasting rather than similar modes of divine action. One can answer him by pointing out that creation and redemption can be distinguished into two different moments. Creation ex nihilo and the incarnation are one-time events that are properly speaking both miraculous in that they are manifestations of God’s acting as an unmediated primary cause. In contrast, the creative act of God made visible as the governance of creation and the redemptive act of God working through the Incarnate Word are temporally distended events which properly speaking are examples of mediated divine action. In the former case, God works through the created natures of his creatures. In the latter case, he works through the created humanity of his incarnate Son. Thus, creation and redemption are similar modes of divine agency.

Finally, in the context of the second objection put forward by critics of double agency, we need to discuss the question of divine action and the laws of nature. Our five modern theologians make a big deal of the fact that their models can explain “noninterventionist objective special divine action.” Much emphasis is placed upon the fact that the paradigmatic models of divine action put forward by contemporary theologians respect the laws of nature. Does classical double agency’s account of miracles as direct unmediated actions of the First Cause not involve interventions which make void the laws of nature? It depends. Modern theologians working in the science-and-religion dialogue, in

my view, appear to see nature in contradistinction, if not in opposition, to God. Nature is the universe of empirically verifiable natural relations among natural objects each of which is the product of natural—often, physical—causes. Nature is a closed system, and God is not a part of it. Rather, God creates nature and then steps back from it. Thus, any divine intervention that acts directly outside the order of things would be illicit interventions involving divine self-contradiction. How could the Divine Lawgiver not abide by his own laws without denying himself? In contrast, the medieval view espoused by St. Thomas Aquinas focused on the order of things as a manifestation of the divine wisdom. The laws of nature are not extrinsic precepts that exist outside of God or the created order but are the regularities observed in the interactions among creatures all of which depend upon God for their existence. Therefore, God can never be completely excluded from the natural order. Nature is properly creation, and, properly understood, God’s actions are always the necessary foundation of the law-like order visible in the universe. Accordingly, even unmediated divine action is, in an analogous sense, supernatural action in accordance with the laws of nature. As St. Thomas pointed out, in one sense, miracles are unnatural because they are contrary to the laws of one order of nature (created nature), but they are still natural in another sense according to a higher order of nature (divine providence). Take a game of pool. A stranger who intervenes in a game by picking up the cue ball as it rolls across the pool table is truly breaking the rules of the game. He is not part of the game. However, the judge of the game who intervenes in the same way in order to correct a foul is not breaking any rules. His intervention is playing within the overall rules of the game because in a real sense, he is part of the game. God is the judge of the game of pool we call Life. Thus, by clarifying the relationship between God and his world, classical double agency is able to account for non-

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44 Some have argued that the Thomistic notion of a miracle as divine action which bypasses natural causality is inadequate because we do not possess a complete knowledge of the natural order and its potential. Without this, it is suggested, we cannot know with certainty whether that order has genuinely been surpassed by God. For an instance of this critique, see Paul Davies, God and the New Physics. Middlesex, Harmondsworth, 1984, 192. However, this criticism is based upon the presupposition that we can call an event a miracle only if we are absolutely certain that it is a miracle. Why is it not reasonable to propose that to say that an event is a miracle is to say that it is a miracle to the best of our knowledge? Furthermore, as William Abraham has correctly noted, although science is constantly revising its theories, this does not mean that we cannot be reasonably sure that many of our present laws of nature do in fact hold, and that they will continue to hold in the future. Honestly, do we really think that science will one day be able to explain how water can instantaneously be changed into wine? See William J. Abraham, Divine Revelation and the Limits of Historical Criticism. Oxford, Oxford University Press, 1982, 34-35.


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46 Of course, this would not apply to those thinkers who hold to pantheism or panentheism where the distinction between God and nature, Creator and creature, is blurred if not erased. As discussed above, however, these same thinkers have rejected what many would consider an essential component of classical Western theism.

47 Note that the scientific method often presumes a naturalistic view of the world: Scientists presume that God will not intervene in their laboratory experiments. In my opinion, understood properly, this presupposition of methodological naturalism is a legitimate move that promotes scientific progress. However, there is no justification for theologians to follow suit. For an insightful discussion on this topic, see ALVIN PLANTINGA, “Methodological Naturalism?” In Perspectives on Science and Christian Faith 49 (1997), 143.

48 “By the power of God, something can occur that is contrary to the universal nature which is dependent on the power of the heavens; without being contrary to nature simply, since it will be in accord with the supremely universal nature, dependant on God in relation to all creatures.” De Potentia Dei 6, 1 ad 1.

49 I thank Michael Hoonhout for his suggestions that improved this example.
interventionist objective special divine action without denying the received view either of God or of divine providence.

Third, its critics have argued that double agency comes up against the problem of reconciling omnipotence with the freedom and contingency found in the created order. Philip Clayton (following Thomas Tracy) writes:

Humans either are or are not the cause of their actions; an action of mine is either a basic action, for which I am responsible, or an action for which God is responsible. Under this view, only if I am the cause of my action is my responsibility preserved.60

In Clayton’s view, in every natural event or human action, either God wins or the creature wins. A similar argument appears to be made by Nancy Murphy who suggests that with double agency, “it seems impossible to do justice to both accounts of causation (the problem of double agency); one inevitably slides back into occasionalism or else assigns God the role of a mere “rubber stamp” approval of natural processes.”51 Again, either God wins (occasionalism) or the creature wins (the divine rubber stamp). Finally, this is an objection echoed by Barbour who argues that double agency has the problem of bringing together the concept of omnipotence which is presumed by classical theism and the evidence of human freedom, evil and suffering, and chance and novelty in an evolutionary world.52

This apparent objection is only a concern for those who view the world as a contest of wills, a worldview inherited from William of Ockham and his nominalist successors.53 From within this worldview, freedom is defined as radical autonomy from the imposition of any external causality including those effects that arise from the divine will. Further, from within this view, causality is seen primarily as physical causality – God can only act as a physical force who must compete with all other physical forces in the material universe.54

52 BARBOUR, Religion and Science, 330.
54 For a discussion of how contemporary accounts of divine agency presuppose a constrained notion of causality inherited from the Newtonian view of the world, a purely mechanistic worldview which has now been discredited by modern science, see MICHAEL J. DODDS, O.P., “Science, Causality, and Divine Action: Classical Principles for Contemporary Challenges” in CTNS Bulletin 21 (2001), 3.
losophy can trace their origins to an attack of both formal and final causes as superfluous elements of a true philosophy of nature. However, recent studies have shown that formal and final causes may be necessary elements of properly scientific explanations. For example, in developmental biology, Brian Goodwin and his colleagues have shown that the morphogenesis of the giant unicellular green alga, Acetabularia acetabulum, is driven by mechanical forces generated by the cell's shape and structure.

This would be a modern example of renewed interest in formal causality where it is noted that form (which Goodwin calls a morphogenetic field) drives the behavior of an organism. In another instance, in physics, Stuart Kauffman has described the apparently intrinsically tendency of material systems to self-organize and become more complex. This opens up the possibility of recovering some notion of final causality in nature. Thus, contrary to those early philosophers of modernity who tried to jettison formal and final causality in the name of a true science, it appears that the natural sciences precisely in order to be true, do in fact need to invoke these types of causes if they are to adequately explain the dynamic systems found in creation.

Conclusion

To summarize, classical double agency can only be appreciated from within the metaphysically rich intellectual tradition from which it arose. Two aspects of this tradition stand out. First, in contrast to contemporary conceptions of divine agency that blur the distinction between the divine and natural orders, the classical worldview observes a distinct yet harmonious relationship involving the creature's dependence upon God. For St. Thomas, God can never be excluded from nature because of its existential dependence upon him. The divine and natural orders are different in kind but intimately linked.

Paradoxically, this distinction ensures the integrity of both sides: God can truly be God while the creature can truly be creature.

Next, the classical worldview presupposes a multi-faceted and rich understanding of causality, an account of causality that is being recovered by contemporary natural science. Thus, seen from within this intellectual tradition, God can work in evolution as a First Cause, determining the course of events, including the disappearance and appearance of disparate species, by acting through natures and individuals that he has brought into existence at particular times and places. What emerges is a picture of an all-powerful Creator who manifests his omnipotence not through external displays of fantastic and spectacular power but through intimate and quiet movements within his creatures. And yet, paradoxically, it is only this humble action which truly manifests the divine majesty because it is only God who can work in this way.

But, finally, why again should a modern care about classical double agency as an explanation for divine action in evolution? As John Polkinghorne has rightly pointed out, the test of any theological enterprise will be the degree to which it can attain comprehensiveness of explanation and overall coherence including an adequate degree of consonance with human experience. Classical double agency and the Thomistic tradition which it presupposes is a theological synthesis, which in my view, has more explanatory power than its modern counterparts. Several of these strengths have already been pointed out. However, in light of Polkinghorne's reference to human experience, one more of these comes to mind.

As noted above, St. Thomas' account of double agency is able to give an account of God's salvific work in the human person. It can explain grace: God works from within the individual Christian to transform him so that he can respond to the command of his Lord to be perfect as his heavenly Father is perfect (cf. Matt. 5:48). In contrast, none of the contemporary accounts of divine agency put forward by the five theologians discussed above is able to adequately account for the action of grace in the process of sanctification, even Protestants acknowledge that God makes saints. How does he do this? More specifically for the Reformed tradition, how does God work to transform the Christian so that he may have the faith that justifies him? Modern accounts of divine action that still admit of the distinction between Creator and creature limit themselves to a notion of divine causality involving physical forces which work from without. It is my contention that no theory of this type can do justice to the process of sanctification that is at the heart of Christianity.

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26 Francis Bacon, a father of modernity, is characteristic of his age when he writes: "It is a correct position that 'true knowledge is knowledge by causes.' And causes again are not improperly distributed into four kinds: the material, the formal, the efficient, and the final. But of these the final cause rather corrupts than advances the sciences, except such as have to do with human action. The discovery of the formal is despised of. The efficient and the material (as they are investigated and received, that is, as remote causes, without reference to the latent process leading to the form) are but slight and superficial, and contribute little, if anything, to true and active science." See his The New Organon, ed. Fulton H. Anderson. Indianapolis, Bobbs-Merrill, 1960, book 2, aph. 2, 121.


29 See POLKINGHORNE, "Metaphysics." 147.
because they are unable to explain how God can transform the creature from within, a process attested by numerous Christian saints. In contrast, classical double agency can do this. It can explain divine action in the evolving saint just as well as it can explain divine action in the evolving universe. It can out-explain its rivals.

**Abstract**

God acts in the world. That this is true is an ancient Christian conviction affirmed every time anyone prays that the Father's will be done. Understanding how this is true, however, is an ongoing work of theology. Several paradigmatic models for divine action in an evolving universe have been proposed recently by five scholars working in the science-and-religion dialogue. They share two common elements. First, they all reject the theory of divine action as double agency — the solution proposed by classical Western theism — as incoherent or inadequate. In this essay, I will argue that these five theologians have failed to properly understand classical double agency and the metaphysically rich account of causality that it presupposes. When double agency is cast within the classical framework of Western theism especially as it was articulated by St. Thomas Aquinas, it remains a coherent and fruitful theological explanation for divine action in an evolving world. Second, these contemporary models of divine action all seek to explain what one theologian has called “non-interventionist objective special divine action.” In response, I will argue that classical double agency allows one to accomplish the task of explaining non-interventionist objective special divine action without denying either the mystery of divine providence where God knows all events past, present, and future, or the radical distinction between the Creator and his creatures, the very distinction which defines Christian-ity as the religion that it is.