

Divine Compositionism: A Form of Occasionalism or a Preferable Alternative View of Divine Action?

Walter J. Schultz, PhD and Lisanne D'Andrea Winslow, PhD

(revised 5.3.13; word count: 5276)

ABSTRACT (revised)

Our general aim in this paper is to recommend *Divine Compositionism* as a view of divine creative action primarily because it accounts for basic concepts in natural science, including *dispositions* and biological *mechanisms*. The issue we address is whether it is a development of *occasionalism* or an entirely new and distinct view of divine action. In the **first** section, we briefly describe occasionalism and then introduce *Divine Compositionism* and its conceptualization of God's *compositional*, existence-conferring efficient causation according to his *will* or *plan*. In the **second** section, we begin to address the central question of whether *Divine Compositionism* is a species of *occasionalism* by showing how *occasional causation* can be understood as a manifesting disposition which is analyzed in terms of God's creative action. In the **third** section we continue to address the central question by briefly describing how *Divine Compositionism* treats other fundamental concepts in science, namely, *causation*, *event*, *law of nature*, and *mechanism*. We conclude that *Divine Compositionism* is a more comprehensive view of divine creative action than concurrentism and is the most advanced extant view of occasionalism.

I. Introducing Divine Compositionism in light of Occasionalism.

Our general aim in this paper is to recommend *Divine Compositionism* as a view of divine creative action primarily because it accounts for basic concepts in natural science, including *dispositions* and biological *mechanisms*. The issue we address is whether it is a development of *occasionalism* or an entirely new and distinct view of divine action. *Occasionalism* is an ancient and venerable view of the relation of divine action to natural causation. Whether occasionalism is entailed by the Jewish or Christian scriptures is certainly debatable.¹ Nevertheless, it was first expressed as a religious philosophical doctrine in the Arabic thought of al-Ghazali (c.1055-1111) in his work, *The Incoherence of the Philosophers*, who declares that "all temporal events, their substances and accidents, those occurring in the entities of the animate and the inanimate, come about through the power of God. . . . No created thing comes about through another [created thing]. Rather, all come about through divine power."² Steven Nadler (2011) defines occasionalism as follows: "God is the only true efficient causal agent. He is immediately, proximately, and solely responsible for

¹ For example, Christian scripture says that, "[Christ] upholds the universe by his word of power." Hebrews 1:3.

² See Marmura (1994): 289.

all natural events. And God acts causally in the world only when occasioned to do so by determinate events or states of affairs.”³ Thus, in order for a view of divine creative action to qualify as a species of occasionalism it must entail (1) that *God is the only ontologically-independent source of causation*, and (2) that *every event is God’s direct action ad extra*.⁴ *Divine Compositionism* entails both of these positions.⁵

Recent literature suggests that, of the four competing views of divine action in relation to natural causation, *Occasionalism*, *Concurrentism*, (*mere*) *Conservationism*, and *Deism*, only the first two remain viable.⁶ The debate between them has proceeded largely on the strategy of raising criticisms against the opposing views. Granted, to be considered viable concurrentism and occasionalism will have to provide some response to such objections. However, there is a more pressing issue that both concurrentism and occasionalism face and this is to give some account of (what may be called) the *translation* of God’s plans and purposes into realized states of creation. Given that God sustains the universe according to his will, can anything more be said about that existence-conferring action of God that the term, ‘sustains’ picks out? Furthermore, both concurrentism and occasionalism are committed to God’s sustaining the universe and it seems that the debate between them might be advanced or even settled if a more fine-grained account of God’s acting in relation to the fundamental concepts of science were made available.⁷

³ See Nadler (2011): 34.

⁴ “While the commitments of individual philosophers varied, in its pure form, occasionalism was a global denial of causality outside the direct and immediate volitional activity of God —both between bodies and between minds and bodies.” <http://www.iep.utm.edu/occasion/> As stated, this account does not rule out the existence of a competing, though suppressed, source of causality. Nadler’s definition avoids this problem.

⁵ This claim involves the implicit proviso that ‘events’ are understood in a purely physical sense. That is, we want to leave open the possibility of mental causation being irreducible to the purely physical—for example, the formation of a proximal intention by a created agent manifests a capacity to choose.

⁶ Citing recent literature, William Vallicella, summarizes that “Deism and mere conservationism have not fared well in recent discussion, and I take them to be, if not definitely refuted, at least rendered implausible. This leaves concurrentism and occasionalism as the only plausible options of a broadly orthodox sort for understanding God’s involvement in nature.” See Vallicella (1996): 339, 40. Yet Timothy Miller makes the case that mere conservationism survives and concurrentism fails. See Miller (2010): 7.

⁷ In his critical evaluation of occasionalism, Alfred J. Freddoso asserts that “every important naturalist concept (nature, law, disposition, power, etc.) has an occasionalist analogue.” We agree, but substitute the term,

We think that *Divine Compositionism* fits the need because it accounts for basic concepts in natural science, dispositions, and biological mechanisms. We may perhaps best introduce *Divine Compositionism* by saying something about “compositionism” and our ontological commitments. Physical theories indicate that the universe is compositional and dynamic—a changing “distribution” of mass /energy. Assuming Planck-scale physics, we postulate that when God acts in sustaining and providentially guiding the world—whether *minimally* at a Planck volume for a Planck moment, or *macroscopically* (which we perceive in terms of objects, properties and relations) or *comprehensively*, rendering the entire universe over some duration—God *confers existence compositionally*. Therefore, when viewed ultimately either as a dynamic distribution of mass/energy or as discrete, regular collapses of wave functions, the physical world *is* God’s acting.⁸

This view of divine action is developed further under our five-category ontology: *God*,

‘explication’ for ‘analogue.’ Freddoso (1988): 103.

⁸ Every physical system,—from a single particle to macroscopic objects (which are systems of particles)—“has” or “behaves according to” a *wave function* Ψ . If it is viewed as reflecting reality, then a wave function Ψ is either a *field* in $3N$ -dimensional space, a *law*, a *property* of an ensemble of particles, or a *region* of space-time, depending on which view of *wave function realism* you prefer. It either *is* or *associates a probability* to the many possible configurations that *that* physical system can be in for any future time t . A wave function *collapse* is the event of one of those possible configuration’s being realized or “localized” at t . The system ceases to behave like a wave at that moment. According to the Ghirardi-Rimini-Weber (GRW_i) interpretation of Quantum Mechanics, the wave function of a physical system—be it a single particle or a macroscopic object—collapses (“flashes”) spontaneously at a regular rate, 10^7 times per second. *Divine Compositionism* takes collapses of wave functions to be God’s conferring definite existence. It is that system’s existence *then* and *there*. If we are correct on this, then at least two issues logically follow. First, the range of manifestations of multi-track, higher-level dispositions (molecular or macroscopic) is rooted in the indeterminacy at the sub-atomic level. However, *Divine Compositionism* takes the “indeterminacy” to be nothing other than God’s intentional (and therefore, rational) action. Such indeterminacy reflects God’s freedom in sustaining the physical world which underlies God’s providential control of history. Second, it follows that it is mistaken—even futile—to think of divine action and “natural causation” in terms of *concurrency* or *intervention*. God does not *encounter* creation. God creates it. Furthermore, there will be situations in which God does not act according to God’s conditional commitments to act on condition. These are perceived as *miracles*. Nothing in the (GRW_i) interpretation of the collapse of the wave function contradicts this. See Ney and Albert (2013): 43, Pusey, *et al* (2012), Colbeck and Renner (2012), and Plantinga (2008):392,393. (*Divine Compositionism* entails what Plantinga calls “Divine Collapse-Causation” (DCC), but without its implicit concurrentism. The challenge to DCC is to *explain* how anything that is ontologically dependent in every respect at every moment (i.e., never *a se*) could ever be functionally independent.) See Vallicella (1996) :351.

*possible worlds, dispositions, powers, structures.*⁹ The domain of *possible worlds* is constituted by the content and extent of God's awareness of God's omni-competence.¹⁰ One such possible world is God's composite plan for the universe, which expresses his will. That plan is the *actual world*. The *ways* God enacts his plan (i.e., confers existence) are mirrored in the latter three categories of *dispositions, powers, structures*. *Dispositions* (ontologically considered) may be construed as God's (conditional) commitments to act on condition. *Powers*—which are the four forces (i.e., gravity, electromagnetism, the strong and the weak nuclear forces)—are God's constant acting. Finally, for example, when a class of elementary particles exhibits just three properties, *spin, charge, and mass*, then there must be *something else* that accounts for these three properties being “held together” as it were. There must be some kind of structural component over and above the properties. These *structures* are patterns of God's unifying, coordinated acting; they are patterns of God's acting simultaneously in various ways. In short, the final components in our ontology are *ways* God confers existence according to plan, which we perceive as *dispositions, powers, and structures*.¹¹ We postulate that every created thing and every fundamental concept of science can be conceptualized in terms of some combination of these.¹² If so, then we may say that what science studies are the *ways* God's confers existence according to plan.¹³

⁹ This way of putting it should not be taken to suggest that God exists or has being in the same way or parallel to the other four categories. Indeed, our ontology logically precludes the idea. Rather, while the remaining four categories are ontologically dependent on God, they are distinct from God. They are not identical to God and not reducible to God, yet they are dependent on God. Thus, they are fundamental in this sense, but cannot be in the sense of being *a se* as God is in himself.

¹⁰ Our notion of possible worlds differs from the platonic view advocated by most Christian philosophers.

¹¹ See Schultz (2009).

¹² Divine Compositionism is not *reductionistic*. Various types of dispositions and structures compose and differentiate the physical dimension of created reality from the agential. The simple dispositions of the physical dimension differ from the simple dispositions of the agential dimension. Thus, human consciousness and freewill are not reducible to the ungrounded dispositions at the quantum level. From these types of dispositions and structures (including an agent-causal power) are language, culture, the social realities of morality, law and economics are “created.”

¹³ Our *dispositions, powers, and structures* ontology enjoys a level of corroboration by the three-fold concentration of content in the non-theistic anthology, “Properties, Powers and Structures.” Bird, *et al.* (2012).

II. *Understanding Occasional Causation in terms of Divine Compositionism*

In this section, we begin to address the central question of whether *Divine Compositionism* is a species of *occasionalism* by showing how *occasional causation* can be understood as a manifesting disposition which is analyzed in terms of God's creative action. Steven Nadler reports that "Occasionalism represents one species or variety of occasional causation, namely, that species in which the proximate and efficient cause whose operation (through efficient causation) is elicited by the occasional cause is God."¹⁴ *Occasional causation* is a relation such that "A substance (event or state of affairs) A induces or elicits—but not efficiently causes—substance (event or state of affairs) B to efficiently cause e."¹⁵ Nadler then asks, "What, then, is this occasioning relation?" He reports that "There is no clear answer to this question."¹⁶ The primary thesis of our paper answers this question. We propose that the occasioning relation described and schematized by Nadler is the relation constituting a disposition and is best analyzed in terms of God's *compositional*, existence-conferring causation according to his *will* or *plan*.¹⁷

An analysis of dispositions

There are four features of dispositions that must be taken into account. First, a 'disposition', in general, is a *state of being poised to do or be something* (i.e., *to effect a change* (active) or *to be changed* (passive)). Some examples are the *elasticity* of a rubber band, *fragility* of a vase; *solubility* of sugar, and the *charge of an electron*. Second, the characteristic way a disposition is expressed is called its *manifestation*. *Shattering* is a manifestation of fragility; *dissolving* is the manifestation of solubility. In the burgeoning literature regarding dispositions over the last decade or so, dispositions are often called "causal powers". This terminology helps to make sense of the debate about whether the *manifestation of a disposition* (i.e., a power) is an *event*—as we take it here—or whether it is *the productive causality* (i.e., the exercise of that power for an effect). We side with the majority, treating the *manifestation of a disposition* as an *event*, primarily because the alternative would commit us to concurrentism or perhaps to some form of neo-paganism or animism which treat powers and their productive causality as fundamental in nature. The third general feature of dispositions is that they

¹⁴ Nadler (2011): 35.

¹⁵ Summarized from Nadler (2011): 30-37.

¹⁶ *Ibid*, 37.

¹⁷ See Schultz (2009).

have *activating conditions*. Striking a vase is an activating condition of fragility; seeing a person in pain or need is an activating condition for compassion. Fourth, whatever accounts for an object's *having* a disposition (i.e., being in that particular state-of-being-poised) and the causal relation that holds between its activating conditions and its manifestations is said to be its *grounds* or '*causal base*.' For example, the so-called '*causal base*' for the fragility of the vase is the molecular nature of its material.¹⁸ To make this more rigorous,

- (1) let x represent an object, substance or system, and
- (2) let σ_x represent a situation involving x , and
- (3) let D represent a disposition, and
- (4) let both C_x and $[[\sigma_x = \{i\}]^\delta \Rightarrow [\sigma_x' \in \{m\}]^{\delta' > \delta}]$ represent types of causal processes involving object x (C_x is an abbreviated form of the latter), where
 - (i) ' \Rightarrow_x ' represents the grounds or "causal base" of D , and
 - (ii) $[\sigma_x = \{i\}]^\delta$ means *situation σ_x satisfies a set $\{i\}$ of D 's initiating conditions within duration δ* , and
 - (iii) $[\sigma_x' \in \{m\}]^{\delta' > \delta}$ means, *situation σ_x' is a token of one of a range of D 's manifestation types occurring over duration δ' later than δ* , and
- (5) let $C_x^* > C_x$ indicate that causal process C_x^* is causally stronger than causal process C_x , and
- (6) let α represent the actual world.

Informally, our analysis is this:

For any object x , situation σ_x , disposition D , and duration δ , *object x has a disposition D* if and only if (1) the actual world includes a type of causal process (call it C_x) holding for some duration δ within which situation σ_x satisfies a set $\{i\}$ of D 's initiating conditions over some duration δ' and situation σ_x' is a token of one of D 's manifestation types occurring over duration δ'' *later than δ'* , and exactly one of the following holds: either (2) the actual world **does not** include a situation σ_x that satisfies a set $\{i\}$ of C_x 's initiating conditions at δ' or (3) the actual world **does** include a situation σ_x that satisfies a set $\{i\}$ of initiating conditions over some duration and

¹⁸ 'Weak' molecular bonding is itself dispositional.

the actual world *does* include a situation σ'_x , a token of one of C_x 's manifestation types occurring over duration δ'' later than δ' , and the actual world *does not* include any causal process C_x^* that is stronger than C_x over duration δ or (4) the actual world includes a type of causal process C_x grounded in a feature of x , but a different causal process C_x^* interferes over duration δ .¹⁹

Therefore, *object x has a dispositional property D* just in case

- (1) and (2) hold, so that *D* is not manifested at δ'' , or
- (1) and (3) hold, so that *D* is manifested at δ'' ,²⁰ or
- (1) and (4) hold, so that *D* is not manifested because of some interference.²¹

In other words, whether or not an object has a dispositional property is matter of what the actual world includes.²² But since the actual world is God's plan according to which God confers existence, we now have rigorously related dispositions to God's creative acting.

¹⁹ Formally, the analysis is this:

$$\forall x, \forall \sigma_x, \forall D, \forall \delta, \quad Dx\delta \leftrightarrow$$

$$1. \alpha \supset [[\sigma_x = \{i\}]^{\delta'} \supset_x [\sigma'_x \in \{m\}]^{\delta'' > \delta'}]^{\delta}, \text{ and}$$

exactly one of the following:

$$2. \alpha \not\supset [\sigma_x = \{i\}]^{\delta'} \text{ or}$$

$$3. \alpha \supset [\sigma_x = \{i\}]^{\delta'} \text{ and } \alpha \supset [\sigma'_x \in \{m\}]^{\delta'' > \delta'} \text{ and } \forall C_x^* > C_x \alpha \not\supset C_x^{*\delta} \text{ or}$$

$$4. \alpha \supset [\sigma_x = \{i\}]^{\delta'} \text{ and } \alpha \not\supset [\sigma'_x \in \{m\}]^{\delta'' > \delta'} \text{ because } \exists C_x^* > C_x \alpha \supset C_x^{*\delta}.$$

²⁰ For the sake of simplicity, I omit mention of cases of *degrees* of manifestation.

²¹ With this feature in place, this analysis to accounts for "finkish" dispositions, antidotes, and mimickers. Martin(1994), Bird (1998), and Lewis (1997).

²² We claim that this is general meaning of subjunctive conditional sentences, so that with some exceptions perhaps, the truth of a counterfactual conditional proposition regarding some object x depends on the dispositional structure constituting x . This is supported by Mellor (2000), Mumford (2006), and Harré (2007) who, noting the shortcomings of Lewis-Stalnaker possible world analyses of counterfactuals, claim that if there are causal powers (dispositions), then those powers are the truth-makers of counterfactual propositions that involve them.

'God acts on condition'

We said that a *disposition* (ontologically considered) may be construed as God's commitment to act on condition. What do we mean by the phrase, 'on condition'? Since the actual world is God's plan, to say "the actual world includes *situation A*" is to say "God plans to create *A*." Likewise, to say "the actual world includes a *causal process*" is to say "God plans to create a *situation A* (of some range of types) whenever a previous situation *B* is created that satisfies a certain set of conditions."²³ Or to put it another way, it is to say "God is committed to confer existence to situation *B*, on the condition that situation *A* is realized." Thus, the next state of the universe (in every aspect) depends on its present state and God's commitments. God's commitments govern transitions or successive states of the universe—and this applies "all the way down" to collapses of wave functions. The dynamic universe is orderly because of these commitments to *act on condition*. The composite macroscopic objects and systems of our perceptual experience created, sustained, and . This *compositionalism* captures causal structure, which (to reiterate) results from the various commitments God has made to *act on condition* in successively sustaining the universe.²⁴

Example: The Actual World and a Fragile Vase.

Say that actual world include a situation in which a certain fragile vase is subjected to stress of some intensity and the actual includes a second situation in which the vase shatters. These are represented as follows:

- $\alpha \supset [\sigma_x]^\delta$ fragile vase is subject to stress
- $\alpha \supset [\sigma_x']^{\delta' > \delta}$ fragile vase shatters

Why does the vase shatter? What causes the shattering? Divine compositionalism holds that is ultimately due to what divine commitments hold. This is represented as follows:

$$\alpha \supset [[\sigma_x = \{i\}]^\delta \xrightarrow{x} [\sigma_x' \in \{m\}]^{\delta' > \delta}]^\delta \quad \text{God's commitment}$$

²³ More technically, "Likewise, to say "the actual world includes a *causal process* (represented here by the symbolism, $[\sigma_x = \{i\}]^\delta \xrightarrow{x} [\sigma_x' \in \{m\}]^{\delta' > \delta}$ " is to say "God plans to create a situation σ_x' (of some range of types in $\{m\}$), whenever a previous situation σ_x is created that satisfies a certain set of conditions."

²⁴ However, this cannot be captured by a mathematical function because in most cases some features of σ_x' can vary.

Applying the analysis of dispositions to occasional causation

Putting this all together we may now have a more fine-grained view of the relation of occasional causation in relation to dispositions.²⁵ To show this, recall that there are three *relata* involved in generic occasional causation: substance (event or state of affairs) *A* induces or elicits—but does not efficiently cause—substance (event or state of affairs) *B* to efficiently cause *e*. We can graphically represent this by the symbols: $A \rightarrow B \rightarrow e$. So, for example, consider the events: *A vase shatters when struck by a hammer*. The vase manifests its disposition, *fragility*. When analyzed in terms of occasional causation, *the shattering of the vase* (i.e., an event; *relatum e*; the effect) is **occasioned by** *its being struck by the hammer* (i.e., an event; *relatum A*; the occasional cause), *but is efficiently caused* (i.e., a divine act) *by God* (i.e., *relatum B*). God is a causal *relatum*, but God's *act* is the productive cause. How is this notion, *productive causation*, interpreted by *Divine Compositionism*?

causation

As we consider our ordinary concept and experience of causation, *causation* is the production (or bringing about) of some event or state of a physical system (effect) by some earlier event or state of a system (cause). Since not every temporally sequential pair of events stands in a causal relation, only in some sequential pairs of events do we implicitly recognize an *intrinsic productive factor*, which is the *production* or '*bringing about*' of the effect. Even though we implicitly 'recognize' it, as Hume argued, we cannot literally perceive the intrinsic productive factor in the relation between events or states of a physical system. Therefore, causation cannot be observed and conceptually analyzed. Causation is, thus, *conceptually primitive*.²⁶ However, even though it seems *to us* that events 'cause' events (or states of systems 'cause' other states), in reality—as both occasionalism and *Divine Compositionism* hold—that causing is not really primitive. It is God's conferring existence. We can perceive something's existence, but we cannot perceive *God's conferring* its existence. This is *why* we cannot perceive the causation; we infer it. Causation, then,

²⁵ We hold that all natural properties are dispositional and that there are no categorical or qualitative properties. This view is known as *pandispositionalism*. We also hold that every disposition is a way God confers existence on condition. This latter point differentiates our view from neo-Aristotelian *pandispositionalists* who treat such dispositions as independently existing.

²⁶ See Psillos (2004) regarding causation as the unobservable "secret connexion" in accounts of scientific mechanisms.

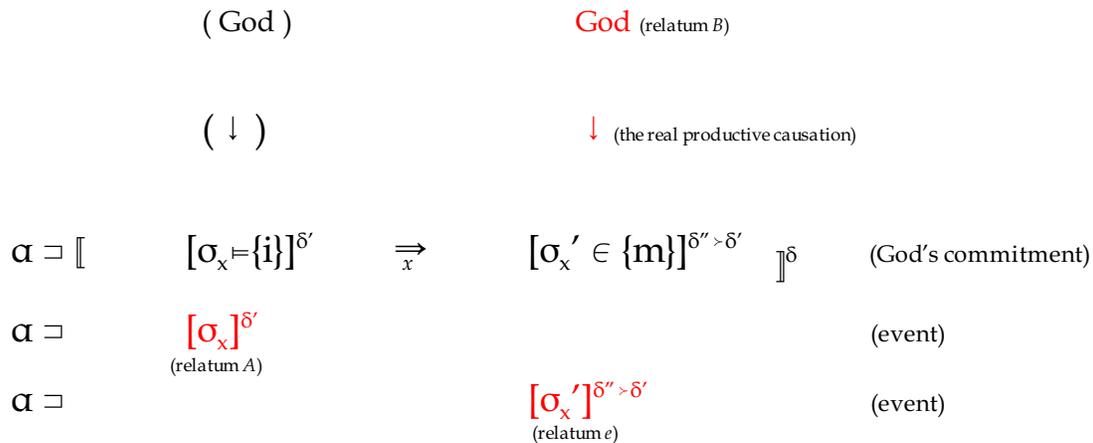
is God acting (i.e., speaking, thinking, imagining, creating, conferring existence)—God’s “REAL-izing” a world state—in accordance with some commitment on his part to do so on the condition of his “REAL-izing” some previous world state—and all of this is according to the *actual world*, which is his plan. More specifically, causation is God’s compositionally conferring existence over a sequence of discrete frames for time according to his commitments.²⁷ Causation, therefore, turns out *not* to be a fundamental feature of nature, i.e., it is not (ontologically) primitive in a naturalistic sense. What seems to be a causal relation between situations (events or states of systems), therefore, just *is* God’s *REAL-izing* both. Thus, a ‘cause’ is a situation or event that satisfies a condition of one of God’s (conditional) commitments to act on that condition. Such divine commitments link two situations with God’s acting, giving us causal relations and when generalized, laws of succession (see below). So it is mistaken to conceptualize two causally related situations as $\sigma^1 \rightarrow \sigma^2$, where the right arrow, ‘ \rightarrow ’, represents the productive causality. Rather, it is better conceptualized as in this graphic representation:



where the down arrows, ‘ \downarrow ’, represents God’s causally-productive acting. But given our analysis of dispositions, what really *connects* the situations is God’s (conditional) *commitment* to act on

²⁷ If the actual world is indeed a divine representation *for* the universe, then some view of the structure of the physical world must be assumed. We assume the following: *Spacetime is discrete*, *The base units of space and time are given by Planck-scale physics*, and *The neo-Lorentzian physical interpretation of the mathematical formalism of the Special Theory of Relativity is correct*. Regarding the first two assumptions, Carlo Rovelli says that the present knowledge of the elementary dynamical laws of physics are given by Quantum Field Theory (QFT), the Standard Model of Particle Physics (SM) and General Relativity (GR). Yet, taken together, they comprise an inconsistent set. GR entails that space-time is not a fixed metric background as assumed in SR, but rather a *dynamical field*. However, Quantum Mechanics (QM) entails that all dynamical fields are quantized. Rovelli concludes that “What Newton called “space” and Minkowski called “spacetime,” is [. . .] nothing but a dynamical object – the gravitational field . . . [which has a] quantized, discrete structure at the Planck scale.” Rovelli (2009): 8,9.

condition. So a better graphic representation is this:



Again, the down arrow, '↓', represents God's acting. But the double arrow denotes what we perceive to be the causally necessary *connection*, which in reality is God *commitment* to act on condition.²⁸ The *occasioning relation* (i.e., the relation between A and B) is a relation between an event (*relatum* A or $[\sigma_x]^{\delta'}$ above) which satisfies the set of initiating conditions of one of God's commitments D to act on condition and God (*relatum* B or God), who causes an event (*relatum* e, which is $[\sigma_x']^{\delta'' > \delta'}$ above) which is one of a range of manifestations associated with a D. In other words, whereas *occasional causation* says, "event A is an occasional cause of God's bringing about event e," *Divine Compositionism* says, "event A satisfies the set of initiating conditions of one of God commitments to act on condition, where such acting brings about event e."

III. Explicating other concepts in terms of Divine Compositionism

event

No version of occasionalism that we are aware of treats the occasional cause as something that satisfies a condition upon which God is committed to act. Even so, *Divine Compositionism* appears on this point to be only a refinement or extension of occasionalism. There seems to be no detectable difference between an occasionalist account of productive causation and a *Divine Compositionist* account. Yet, differences do emerge as we extend to other concepts. Hence, an *event* is the mutual manifestation of disposition partners over a duration. An *event* is God's

²⁸ This accounts for both the necessity and regularity aspects of our *concept* of causation: nothing can hinder God's fulfilling his commitments (necessity) and God always acts according to his purposes (regularity).

compositionally-conferring existence over a sequence of Planck moments, creating a region of the universe. In other words, while *causation* is God's "REAL-izing" a world state; an *event* is God's "REAL-ization" of a world state. Here we see a refinement of occasionalism, but again there are no contrary or contradicting issues between them. The refinement continues as we move to laws of nature.

the actual world

As we mentioned earlier, the *actual world* on our view is one of a domain of *possible worlds* which in turn is constituted by the content and extent of God's awareness of God's omniscience. The *actual world* is God's composite plan for the universe.²⁹ According to *Divine Compositionism*, in order for the *actual world* to function as a plan, it must have a *temporal* structure, a *representational* structure, and a *proto-causal structure*.³⁰ Let us briefly consider each in turn. Since the actual world is a representation for the universe over time, it will have a temporal structure. One might think of this feature of the actual world as a book with blank pages. Since creation is assumed to have a temporal beginning, the book has a first page but no last page. The content of "pages" are *world states*, or representations. Alternatively, the temporal structure may be conceptualized as a blank film tape, which is infinitely long in one "direction". On these analogies we have *pages* and the *contents* of pages. Events and concrete states of affairs (according to the model being developed) are plans achieved. Next, since events vary in duration and, therefore, may stand in various relations to other events. *Representations* of events will mirror this. There are seven types of *temporal* relations between any *two* events. Some are *disjoint*. One may *overlap* another and one may *meet* another. One may *begin simultaneously* with another and one may *end simultaneously* with another. One may occur *entirely within the duration* of another or both may *occur simultaneously*. The actual world has a structure of representations standing in these relations. Finally, while God's *acting* according to plan is the *causal structure* of the universe, the actual world includes representations of sequences of events which will stand in causal relations when enacted. The structure of these representations is the *proto-causal structure*.

²⁹ See Schultz's paper, *The Actual World from Platonism to Plans*.

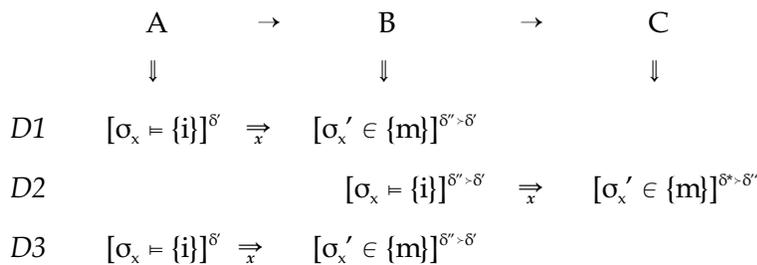
³⁰ See authors' paper, *The Structures of the Actual World*.

law of nature

Laws of nature (*as laws of succession*) are regularities in God’s acting according to plan; patterns in the causal structure. As *Laws of co-existence* are the co-ordination of God’s acting according to plan and are incidental to God’s commitments to act on condition, none of which conflict. As these regularities and co-ordinations of God’s actions are perceived and conceived, ‘laws of nature’ are descriptions of phenomenal regularities.

mechanism

Finally, let us briefly consider how *Divine Compositionism* might be extended to account for scientific mechanisms. A *mechanism* is the causal process of a complex disposition. It may be graphically represented as follows, where the letters, A, B and C, pick out stages in a causal process:



In this simplified model, state A of the system x involves two situations satisfying the initiating conditions of two dispositions, *D1* and *D3* . (Only the commitment aspect of each disposition is shown). Their joint manifestation (state B of system x) satisfies the initiating conditions of a third disposition, *D2*. Thus, to put it more precisely, a *mechanism* is a causal process that terminates in a manifestation of co-ordinated and/or sequential dispositions (of whatever ‘entities’ are involved or of ‘parts’ of a system) under certain ‘start-up’ conditions.

One objection briefly stated and refuted

Divine Compositionism entails *continuous creation*, which is the traditional view that the divine action required to *conserve* things in existence is identical to what is required to *create* in the first place. In each case— God’s initial creation of an object and God’s sustaining it—God’s confers existence. No created thing is ever in any aspect self-existent. Only God is *a se*. The universe at any moment just *is* God’s acting or willing it to be. It exists entirely within God’s consciousness. A person’s imagining a scenario is a helpful analogy. Thus, *Divine Compositionism* is intentional

object panentheism, which indeed is a kind of idealism. This is why it has been asserted that *continuous creation* is incompatible with the reality of things.³¹ However, this assertion fails to distinguish between two kinds of idealism.³² *Mens*-idealism, rejecting the notion that material objects are real to humans, holds that material objects are merely phenomenal constructs within the mind. As H. Darren Hibbs writes regarding *res*-idealism, “extramental material objects exist, but they are ontologically dependent upon a nonmaterial source.”³³ Biblical (as opposed to platonic) *res*-idealism holds that material objects are real, but they depend entirely on God’s willing them to be. *Divine Compositionism* is a version *res*-idealism.

Conclusion

To reiterate, no version of occasionalism that we are aware of treats the occasional cause of an event as something that satisfies a condition upon which God is committed to act yielding an analysis of dispositions and laws of succession. However, *Divine Compositionism* with its account of *dispositions*, *powers* and *structures* also accounts for *causation*, *event*, and *law of nature*, and promises to account for *mechanisms* in biology. As far as we know, both concurrentism and occasionalism have yet to provide a coherent and consistent account of *any*, much less *all*, of these concepts. From this discussion, we conclude that *Divine Compositionism* is a more comprehensive view of divine creative action than concurrentism and is the most advanced extant view of occasionalism.

Walter J. Schultz, PhD

Lisanne D’Andrea Winslow, PhD

May 4, 2013

³¹ De Weese (2011): 281,282; Fredosso (1988): 115.

³² Hibbs (2005): 567.

³³ *ibid*, 569. See also Davies and Gregersen (2010).

REFERENCES

- Bird, Alexander (1998) Dispositions and Antidotes. *Philosophical Quarterly*, 48: 227-34.
- Bird, Alexander
Brian Ellis, and
Howard Sankey, (eds.) (2012) *Properties, Powers and Structures*, (New York: Routledge).
- Colbeck, Roger and
Renato Renner. (2012) "Is a System's Wave Function in One-to-One Correspondence with Its Elements of Reality?" *Physics Review Letters* 108, 150402.
- Davies, Paul and
Niels Henrik Gregersen (2010) *Information and the Nature of Reality: from Physics to Metaphysics*. (Cambridge University Press).
- DeWeese, Garrett J. (2011) *Doing Philosophy as a Christian*. (Downers Grove, Illinois: InterVarsity Press).
- Freddoso, Alfred J. (1988) Medieval Aristotelianism and the Case against Secondary Causation in Nature, *Divine and Human Actoin: Essays in the Metaphysics of Theism*. Thomas V. Morris (ed.) (Cornell University Press): 74-118
- Harré, Rom (2007) An Extended Semantic Field of Dispositions and the Grounding Role of Causal Powers. *Dispositions and Causal Powers*. Aldershot: Ashgate: 67-80.
- Hibss, H. Darren (2005) Who's an "Idealist?" *The Review of Metaphysics* 58: 561-570,
- Lewis, David (1997) Finkish Dispositions. *The Philosophical Quarterly* 47: 143-158.
- Marmura, Michael E. (1994) Ghazali's Chapter on Divine Power in the *Iqtisād*. *Arabic Sciences and Philosophy* : 289.
- Martin, C. B. (1994) Dispositions and Conditionals. *The Philosophical Quarterly* 44(174):1-8.
- Mellor, D. H. (2000) The Semantics and Ontology of Dispositions. *Mind* 109:757-80.
- Miller, Timothy D. (2010) Continuous creation and secondary causation: the threat of occasionalism, *Religious Studies* 47.1:3-22.
- _____ (2009) On the distinction between creation and conservation, *Religious Studies*, 45: 471-485.
- Mumford, Steven (2006) The Ungrounded Argument. *Synthese* 149 (3):471-489.
- Nadler, Steven (2011) *Occasionalism: Causation Among the Cartesians*. (Oxford: Oxford University Press).
- Ney, Alyssa and
David Z. Albert (eds.) (2013) *The Wave Function: Essays on the Metaphysics of Quantum Mechanics* (Oxford University Press).
- Plantinga, Alvin. (2008) "What Is 'Intervention'?" *Theology and Science* 6 (4) (November): 369-401.
- Pusey, Matthew F.
Jonathan Barrett, and
Terry Rudolph (2012) "On the reality of the quantum state," *Nature Physics*, 8, 475-478.
- Rovelli, Carlo (2009) *Quantum Gravity*. (Cambridge University Press).
- Schultz, Walter J. (2009) Dispositions, Capacities, and Powers: A Christian Analysis. *Philosophia Christi*. 11.2: 321-338.
- Psillos, Stathis (2004) A Glimpse of the Secret Connexion: Harmonizing Mechanisms with Counterfactuals. *Perspectives on Science* 12 no 3: 288-319.
- Vallicella, William (1996) Concurrentism or Occasionalism? *American Catholic Philosophical Quarterly* 70.3: 339-359.