

Causality, Emergence, and Panentheism

with Benedikt P. Göcke, "On the Importance of Karl Christian Friedrich Krause's Panentheism"; Mariusz Tabaczek, "The Metaphysics of Downward Causation: Rediscovering the Formal Cause"; and Zachary Simpson, "Emergence and Non-Personal Theology"

EMERGENCE AND NON-PERSONAL THEOLOGY

by Zachary Simpson

Abstract. In response to recent theories of emergence which attempt to examine system dynamics and the evolution of complexity from physics to biology and consciousness, a number of theologians have attempted to distill religious insights from a philosophical concept of emergence. Recent work by Terrence Deacon, however, which emphasizes constraint and a process understanding of complexity, undercuts significant features in emergent theologies, namely the privileging of certain loci within emergent complexity, an emphasis on efficient causation, and, theologically, an agential and personal God. The final section of this article, using the example of Navaho religious thought, argues that other religious insights which centralize normativity, global features of complexity, and are depersonalized, have greater traction with current scientific theories of emergence.

Keywords: complexity; Terrence Deacon; divinity; emergence; personhood; Philip Clayton; religious naturalism

In the past decade, a number of theologies have been published—many of them in this journal—which attempt to accommodate recent findings in the systems sciences, specifically scientific theories of emergence. Although the details of such theologies vary, they share both a common desire to maintain traction with scientific findings as well as to emphasize the creative and self-organizing characteristics found within the world and exemplified in theories of emergence. Moreover, in attempting to formulate a theology of emergence, many of these theories also engage in the philosophical activity of constructing a theory of emergence which best fits the scientific data.

To this latter point, recent scientific theories regarding emergence illuminate a number of key features regarding the emergence of complexity in

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the natural world. First, recent theories demonstrate that complexity found at higher “levels” of structural organization may be the result of internal system dynamics and higher-order constraint. Second, what “emerges” at higher levels are new forms of relationship and causation (i.e., formal causation), not new “things” or beings. And, finally, such system level characteristics can be broadly used to examine system dynamics in phenomena as diverse as ecosystems, economic systems, or even consciousness.

Using the work of Philip Clayton as an example, this article aims to show that the above facets of a scientific theory of emergence potentially undercut theologies of emergence which seek to maximize traction with both empirical data and models of scientific emergence, while also using “emergence” as a metaphor for the progressive realization of spirit within the world. This will be done in two ways. First, emergence does not authorize the prioritization of any particular form of agency or level, including God or the human mind: what is distinctive about emergence is the fact that certain relational dynamics obtain regardless of the being, or system, they are found within. And, second, a more strict reading of emergence does not allow for a personalistic conception of the higher levels of structural organization, such that a personal agent, God, can be seen as a natural or analogical extension of the logic of emergence.

Because of this twofold critique of Philip Clayton’s emergent theology generated through a scientific theory of emergence, in the final section I posit that a “theology” that possesses greater traction with the scientific data would be one which emphasized relational dynamics and normative equilibria as system principles. Though there are multiple examples of such concepts, Native American concepts of harmony and balance are particularly illustrative of this more nonrelational but dynamic reading of the significance of an emergent world.

In both arguing against certain emergent theologies and in arguing for a particular nonpersonal theology of emergence, a few critical concepts will become evident. Namely, those theologies which seek maximum traction with the scientific data may need to rely on a more limited store of analogies and philosophical traditions for their analysis, or, conversely, those theologies which posit a greater role for God’s agency will necessarily rely on data and concepts which are extrinsic to emergence itself, thus implicitly recognizing key disanalogies with scientific models of emergence.

ASPECTS OF EMERGENCE

In order to address theologies of emergence, it is first necessary to articulate a coherent theoretical framework which captures, at least in broad outline, the conceptual features of a scientific theory of emergence. As an initial starting point, emergence should be seen as the critical intuition that certain complex units have behaviors, patterns, and characteristics not exhibited

by their parts. Or, as Adrian Cho remarks in a recent edition of *Science* dedicated to systems theory, “a complex system consists of many elements that interact so strongly that they tend to organize themselves in one way or another. This ‘emergent behavior’ makes the group more than the sum of its parts” (Cho 2009, 406). Indeed, the defining characteristic of emergence is that, at certain structural thresholds, complex units begin to exhibit behaviors unpredictable or incalculable through the mere sum of its parts (see Sherman and Deacon 2007, 878). These global dynamics are then analyzable in their own right, apart from a componential analysis.

For most theorists, emergence is distinctive because it entails the notion that certain structures or complex units exhibit causal efficacy that is unpredictable by an analysis of its component parts. Such structures, according to emergentists, are ubiquitous. Indeed, if emergence theorists are correct, *anything* which exhibits more-than-quantum behavior should have undergone a transition from simple to complex behavior marked by systemic and/or top-down causation. Moreover, such causation is either not computationally possible given an account of all “lower-level” activity (e.g., particle behavior; see Bedau 2008) or is ontologically different than a mere sum of its component behavior inasmuch as it exhibits new forms of causation and/or behavior.

Defining what precisely constitutes the above ontological difference vis-à-vis computational “incompressibility” (see Bedau 2008) is what is at issue between so-called strong (ontological) and weak (incomputable) emergence.¹ While both theories recognize computational and statistical transitions in nature, weak emergence states that such transitions are *only* computational or statistical in nature, whereas strong emergence states that there is a more-than-statistical transition operative in complex system behavior. As such, strong emergence must also answer to the criticism of Jaegwon Kim that it is not, in effect, “double counting”: causation at the level of particles must not be cancelled out or “doubled” by the behavior of “wholes,” that is, complex units (see Kim 1999, as well as Deacon and Cashman 2011). Thus, strong emergence must both show that, negatively, the behaviors of complex systems are intrinsically incomputable and, positively, that complex systems “do” something not done by their components.

Arguably, the most complete theoretical answer to the above problems is offered by Terrence Deacon.² For Deacon, the twin problems of computability and causation by complex units can be resolved by transitioning from a particle-based and efficiently causal perspective to one that emphasizes the role of constraint, process, and formal causation. Instead of seeing complex units as actually exerting efficient causation on their parts, Deacon seeks to show the ways in which constraint can have causal efficacy in its own right. As he states, “From the dynamical systems perspective, a limitation on the degrees of freedom to change is merely something

less than random or chaotic From this perspective, self-organization is merely an intrinsically arising asymmetric change from more to fewer dynamical tendencies, which results when a system is continually perturbed, or pushed away from thermodynamic equilibrium” (Deacon and Cashman 2011, 200). For Deacon, the *limitation* of degrees of freedom or potential relationships is just as causally efficacious as the “push and pull” of efficient causation or thermodynamics.

As Deacon recognizes, this places absence (limitation is not a “something”), or constraint, at the heart of his account of strong emergence. Complex units have causal efficacy in that they reduce the degrees of freedom and variation of their internal components (see Deacon 2011, 192). Moreover, complex units construct regularity and order by “generating and spreading constraints . . . What is important about such processes, from our perspective, is that the regularity develops over time as a result of biases of interaction among a vast many components compounding with one another” (Deacon et al. 2011, 10). Not only do complex units operate by reducing degrees of freedom, then, but they also increase order, or far-from-equilibrium dynamics, by amplifying and spreading constraints on behavior such that they become self-reinforcing or synergistic. Deacon nicely describes this dimension of emergence: “micro-configurational particularities can be amplified to determine macro-configurational regularities, and these in turn further constrain and/or amplify subsequent cycles of this process, producing a sort of compound interest effect” (Deacon 2011, 261).

The activity whereby complex units selectively constrain and amplify certain relational dynamics is given by Deacon as “constraint propagation” (Deacon 2011, 202), a form of causation which is not, in his usage, positive, but, rather, negative. What is distinctive about complex structures, for Deacon, is the limitation of certain potential configurations as well as the amplification of those configurations which are favored by the system. A complex whole, then, is primarily constituted by the ways in which it constrains and amplifies certain relational dynamics. The limitation of certain configurational states is not, then, “subject to componential analysis” (Deacon 2011, 204), as they remain simply unrealized potentials. Or, even more radically, as Deacon asserts, “*Such concepts as information, function, purpose, meaning, intention, significance, consciousness, and value are intrinsically defined by their fundamental incompleteness.* They exist only in relation to something that they are not” (Deacon 2011, 23; italics are Deacon’s). Though Deacon’s proposal seems on its face to be counter-intuitive, his assertion that information, meaning, etc., are incomplete is grounded in the recognition that what actually does work, at a level of sufficient complexity, is the negation of certain relational possibilities and the amplification of those relationships and processes which remain.

Using this more negative logic, Deacon has effectively negotiated both the problem of computability as well as double-counting. Constraint is intrinsically incomputable from a componential perspective, as the limitation of certain possibilities can *only* exist at the level of more complex units and is unpredictable given a componential analysis alone. Moreover, constraint does not double-count causally, as its form of causation is not efficient, but, rather, negative. Limitation constitutes a different form of causal power. To be sure, this represents a potential departure from part/whole conceptions of emergence proffered by others (see, e.g., Peacocke 2001), wherein wholes act downwardly on their parts. In its stead, Deacon posits a more process-oriented conception of emergence (see Deacon 2011, 174), one which emphasizes the limitation, modification, and amplification of nonlinear dynamical processes. In such an understanding, there is no “whole” or “part,” but, rather, certain systems which constrain and order the behavior of other subsystems, which may themselves be a part of other systems.

Even more radically, Deacon’s understanding of strong emergence posits that additional forms of causation emerge given sufficiently complex relational dynamics. In denying efficient causation at the level of complex units and yet also holding that complex units have causal efficacy, Deacon must therefore posit that complex units exhibit a form of causation different than efficient causation. As he states, “If novel constraints can be intrinsically generated under certain special (e.g., far-from-equilibrium) conditions, then novel forms of causal power can emerge. Emergence results from the spontaneous exploitation of this capacity of constraints to engender further constraints” (Deacon and Cashman 2011, 200). Given the fact that causation at a level of sufficient complexity is marked by constraint, amplification, and fit within certain relational dynamics, Deacon grants that formal causation is what “does work” at certain levels of structural organization. With respect to the self, for example, Deacon argues that the “self is effectively a system of self-perpetuating formal causes: a dynamical organization that includes the capacity to continuously maintain or reconstitute that form of organization in the face of intrinsic degradation and extrinsic disturbances” (Deacon et al. 2011, 5). More broadly, then, a thing’s causal power resides in its capacity to maintain form and order over time; in order to do so, it exercises constraint on underlying subsystems which it then organizes into a temporary, far-from-equilibrium, whole. This effectively means that Deacon has displaced a thing’s causal power from its “materiality alone or even energetic interactions between things” (Deacon 2011, 141) and toward a more systemic understanding which includes the possibility for constraint and fit within a formal structure (see also Silberstein 2006, 204; also see Jaeger and Calkins 2011, 26). This form of constraint constitutes the top-down causation which is critical to Deacon’s strong theory of emergence. Thus top-down causation acts in

a formal manner, limiting those statistical regularities which contribute toward the equilibrium or order of the whole.

Given the formal nature of causation at levels of sufficient complexity, Deacon also notes that complex systems are telic in nature, inasmuch as they organize their constituents with respect to a particular end. Constraint is usually constraint *toward* a particular end, whether it be self-perpetuation, internal equilibrium, or task performance. As Deacon states, “We recognize teleological phenomena by their development toward something they are not, but which they are implicitly determined with respect to . . . It is the *end* for the sake of which they exist—the possible state of things that they bring closer to existing—that characterizes them” (Deacon 2011, 24). Deacon recognizes the common distinction between end-directed processes such as equilibrium maintenance or genetic regulation from those which are generally considered to be more robustly intentional or under conscious direction. As such, he describes *all* end-directed processes as “ententional” (see Deacon 2011, 27ff.), a more general designation which captures the similarities between both autonomic biological processes and more goal-directed conscious behaviors. All ententional phenomena, for Deacon, operate under the persistent absence of that-which-is-not-yet-achieved, whether it be a steady state, work cycle, or intentionally chosen goal.

In organisms or systems of sufficient complexity, ententional processes can become more robustly causal, exhibiting a kind of final causation. In such cases, Deacon argues for the emergence of the highest order of emergent dynamics, “teleodynamics,” which he describes as follows: “It is a *dynamical form of organization that promotes its own persistence and maintenance by modifying this dynamics to more effectively utilize supportive extrinsic conditions*” (Deacon 2011, 270; italics are Deacon’s). Deacon further recognizes that teleodynamics are “consequence-organized,” and, as such, are the “dynamical realization of final causality” (Deacon 2011, 275), in that they both constrain a variety of subsystems and are directed toward a particular end. Teleodynamic organization is further marked by the capacity for systems to “remember” prior states (either at the cellular or system level; Deacon 2006, 137f), to amplify feedback loops that are generated internally (Deacon 2006, 125), and to consistently “reorganize natural processes in ways that would never spontaneously occur” (Deacon 2011, 367). In short, teleodynamics designates a new form of systemic organization and relationality, in which various system components are placed into hierarchical and iterative relationships with one another. These relationships and system processes then serve overall system goals, such as maintenance, reproduction, or goal-directed behaviors.

Given the generality of teleodynamic organization, Deacon’s theory of emergence has the ostensible effect of seeing a number of emergent phenomena as representative of a more general logic of relational dynamics and structural organization. In effect, teleodynamics “sets the stage

for the emergence of unprecedented organizations of efficient causality” (Deacon 2011, 368), such that bodies, ecosystems, and brains can all be seen as exemplars of teleodynamic organization. What such new forms of organization achieve, according to Deacon, are not “new fundamental laws of physics or any singularity in the causal connectedness of physical phenomena, but rather the possibility of new forms of work, and thus new ways to achieve what would not otherwise occur spontaneously” (Deacon 2011, 369). Thus, contrary to a reading of strong emergence which would explain the emergence of higher-order entities as the result of the formation of new laws, Deacon posits that new forms of relatedness and causation—both formal and final—are actually responsible for the emergence of complexity at higher levels. What does work, in effect, are systemic constraint, end-directed organization, and hierarchical structuring, not the efficient manipulation of parts by wholes or the emergence of new laws. This more negative and desubstantialized logic can thus argue for both intrinsic incomputability and a causal effectivity at higher levels of structural organization which does not interfere with efficient causation, but also denies part-whole conceptions of emergence as well as theories of emergence which see more particular dynamical transitions between consciousness and the brain, biology and chemistry, etc. For Deacon, teleodynamic organization marks a general class of relational dynamics which can be applied to *all* emergent phenomena which are hierarchically organized and end-directed.

Perhaps the most radical consequence of Deacon’s conception of the higher order of emergence, however, is his more post-metaphysical conception of emergence, one that denies certain strong ontological readings of the emergence narrative. As Deacon states with respect to consciousness, or mind: “Amazing new properties have been, and are being, emerged, and there is nothing new being added. There is no new thing. No new laws. What is ‘new’ and ‘more’ are new modes of not being, new forms of constraint” (Deacon and Cashman 2011, 204). Given Deacon’s process-oriented account of emergence, this is unsurprising. For Deacon, no new entities or things emerge; rather, new forms of organization, relationality, and constraint are what distinguish complex systems from simple systems. This desubstantialized picture of emergence is echoed by Loyal Rue:

Emergence is about new realities, but that does not mean that some new kind of stuff enters the picture. What enters the picture is new relationships between components that are already there and absolutely must be there. When existing parts enter into new dynamical relations, new realities appear. (Rue 2007, 830)

Negatively, both Deacon and Rue argue against a more substance-oriented conception of emergence, in which new beings emerge hierarchically over time. Instead, what emerges are new relational complexes, subordinated

subsystems, and forms of constraint. Technically, the strong emergence proposed by Deacon is not ontological or axiological, then (there are no new beings or laws that emerge). Nor is there a substantive self or ecosystem or organism. To echo deconstruction, there are simply plays of forces, forms of relation, and transient constellations of far-from-equilibrium processes.

If anything, what emerges more generally in complex systems according to Deacon is normativity (see Deacon and Cashman 2011, 203ff.). For Deacon, of course, normativity signals the preservation of coherence and the continued representation of the outside world over time. This more minimalistic definition is intentional, and represents the “desire” for complex systems to maintain equilibrium, adapt, and persist. These normative features of life have causal efficacy, inasmuch as they are “attractor states” (see Deacon 2011, 172ff.) for future configurations of work and information processing. If any general philosophical features are to be read into the story of emergence, then, it is the fact that complex teleodynamic systems are drawn to certain ordered states which allow for both their persistence and reproduction. In humans this normativity appears as goal-directed and intentional behavior; in other complex systems, such as nonhuman animals or super-organisms, however, normativity manifests itself as maintaining an equilibrium with one’s environment or autonomic behaviors.

In sum, Deacon’s conception of strong emergence recognizes the following: (1) the causal role of constraint as a defining feature of complex systems; (2) the emergence of teleological behavior at higher levels of structural organization; (3) the recognition that higher-order systems are marked by normative behaviors, namely seeking equilibrium states, self-preservation, or goal-directed behaviors; and (4) a progressive undermining of substantialist, nomological, or ontological conceptions of emergence which posit new forms of law or being as integral to emergence theory. Strong emergence, though desubstantialized, is thus causally robust enough to explain the emergence of higher-order behaviors, such as consciousness, culture, or even complex system dynamics, such as ecosystems. Or, negatively stated, Deacon’s theory—and in contrast to other theories of emergence—does not invoke separate dynamical transitions between brain and mind, individuals and culture, etc.: each is representative of the same emergent logic. Absence, normativity, and teleodynamic organization are sufficient to explain other properties often seen as markers of distinctive “levels” of emergence. Similarly, Deacon’s conception of strong emergence is not causally overdeterminative, nor does it invoke new beings. In this way, it remains steadfastly monistic even while explaining the emergence of complex system behaviors.

The next section will evaluate the theology of Philip Clayton in light of this understanding of strong emergence. For those theologies which seek maximum traction with the empirical and theoretical evidence, as

does Clayton's, the conception of strong emergence as given by Deacon and others presents unique, and perhaps insurmountable, challenges to theological reflection.

EMERGENCE AND THEOLOGY

In the wake of recent discoveries in the systems sciences, a number of scientists, philosophers, and theologians have attempted to explain the larger significance of emergence for both humanistic and theological reflection. Though there are considerable differences between these various emergent philosophies and theologies, they do share certain common features, namely the reading of nature as generating more complex behavior over time, the recognition of levels of increasing complexity, and, at least in the case of many theologies, an orientation toward process conceptions of the activity of nature and, perhaps, God.

Arguably, the most complete emergent theology is proffered by Philip Clayton, who has simultaneously developed both an emergent philosophy of nature as well as an emergent theology. Clayton's aim with respect to both projects is to "wed the best of contemporary science with the most fundamental insights of theology" (Clayton 2008, 64). This disposition is given by Clayton as "traction," the intention to not only "withdraw those claims that are counter-indicated by the evidence as a whole," namely that which is indicated by the sciences, but also to "*seek out* those discursive contexts in which maximum traction between science and religion can be obtained" (Clayton 2008, 56). Because of this more ambitious directive, Clayton's theology is, ideally, constrained by the logic of emergence and is open to revision and/or substantive alteration given the findings of the sciences. Moreover, as will be seen below, many of the guiding metaphors for theological reflection, according to Clayton, should be generated by the sciences. This comes with a proviso, however: Clayton's understanding of "traction" does not rely *solely* on the sciences for a store of theological intuitions and concepts. Rather, theology is the process whereby scientific concepts are *maximized* vis-à-vis traditional, philosophical, and theological models, with the aim of a coherent system of concepts (Clayton 2008). Thus, what is at stake in Clayton's theology, and in my engagement with him below, is the degree to which his theology appropriates and maximizes the central features of a theory of strong emergence. This desideratum will also guide my own reflections in the concluding section.

Given the above, Clayton has proposed a theory of emergence largely in line with contemporary understandings within the system sciences. Clayton, for example, notes the four key hallmarks of emergence as the following: the role of scaling and inter-level dynamics, the role of feedback loops in amplifying certain relational dynamics, the role of local-global interactions, and the role of nested hierarchies (Clayton 2004, 80–84). These

features of emergence, along with Clayton's recognition that downward causation is the "process whereby some whole has an active nonadditive causal influence on its parts" (Clayton 2004, 49; original is italicized), allow for Clayton to argue, in terms similar to Deacon, that constraint is a significant component in the evolution of complexity. In line with this understanding, Clayton also argues, again akin to Deacon, that formal causation is critical to understanding the causal efficacy of complex structures with respect to their components (see Clayton 2008, 82).

It is unsurprising, then, that Clayton states his agreement with Deacon at multiple points, offering that Deacon "offers the clearest expression of the logic of scientific emergence available today" (Clayton 2008, 71). Despite this, however, Clayton offers a few points of disagreement with Deacon which arguably form the basis for his emergent theology. The first such point of contention regards Deacon's more homogenous reading of the general conceptual features of emergence. As noted above, for Deacon, certain critical thresholds in complexity denote particular system characteristics, irrespective of the *kind* of system in which they inhere. Teleodynamics, for example, is the same in all normative end-directed systems, whether they be organisms, brains, or social networks. On this point, Clayton clearly disagrees. For Deacon, "stage three emergence [teleodynamics] does not become a new starting point for a further process of emergent complexity leading to new emergent wholes. Instead, when the system reaches the point at which there is a self-contained feedback loop . . . the system has achieved all the ontological complexity there is to achieve . . ." (Clayton 2004, 46). As Clayton summarizes, for Deacon, "Fundamentally new types of emergence do not occur at higher levels of complexity . . ." (Clayton 2004, 48). Furthermore, according to Clayton, Deacon's form of causal constraint exhibited at higher levels of complexity is not strong enough; that is, it does not grant the full range of causal efficacy to complex wholes. Indeed, the form of emergence endorsed by Deacon "tends to treat emergent wholes as constraining factors rather than as active originators of causal activity" (Clayton 2004, 51), a form of emergence Clayton calls "weak emergence."³ Instead, Clayton proposes that wholes exert causal influence not only formally and finally, but, somewhat ambiguously, through "active downward causation" (Clayton 2004, 50).

The above considerations, I would argue, are in the service of a more robust notion of strong emergence endorsed by Clayton, one which not only entails the rejection of Deacon's narrower conception of causation, but also, as indicated above, a more structured understanding of emergence in which certain complex wholes (e.g., the brain) exhibit a form of relational complexity and causation that transcends Deacon's teleodynamics. Instead of Deacon's more homogenous picture of emergent structures, then, Clayton asserts that "empirical reality divides naturally into multiple levels" (Clayton 2008, 90). This more complicated picture of

complex emergent dynamics is owing in large part to Clayton's rejection of Deacon's deference to "microphysical causes and explanations" (Clayton 2004, 58), a move which allows Clayton to see higher "levels" of emergence as exhibiting causal behavior which is at least partially causally dependent upon, but ontologically different than, its underlying components. Because of this more robust causal picture than the one presented by Deacon, Clayton posits that, in addition to the transitions in complexity one sees from physics to chemistry and from chemistry to complex organisms and ecosystems (which Deacon affirms), one can also see structural transitions in the emergence of consciousness and the emergence of Spirit, the latter being the ability to question the "ultimate nature and origin" of nature itself (Clayton 2008, 191).

These differences between Clayton and Deacon are both notable and debatable. For Clayton, the difficulties are twofold. First, his position must articulate in what ways "active downward causation" is different than the forms of constraint argued for by Deacon. In doing so, it must also argue that such causation is not over determinative; that is, the behavior of complex wholes must not duplicate the effort seen at other levels of complex organization. Second, Clayton should also argue for a clear and distinct difference between complex biological structures and the two other structural transitions noted above, namely consciousness and Spirit.

I would argue that the first concern above is conceptually collapsed into the second in the work of Clayton. That is, Clayton will consistently argue for the role and causal efficacy of active downward causation by deferring to the question of *what* emerges in consciousness and Spirit. To that end, Clayton gives the following regarding his version of strong emergence: "First, new *things* emerge in natural history, not just new properties of some fundamental things or stuff; and, second, these emergent things exercise their own types of causal power" (Clayton 2008, 73).⁴ For Clayton, Deacon's more restricted ontology fails on a number of counts. First, and likely most important, it fails to account for mental causation (see Clayton 2004, 108). For Clayton, formal constraint is simply insufficient to account for the complex beliefs, attitudes, and dispositions one knows and feels in consciousness. Such beliefs are not simply a form of constraint, but are, rather, causally efficacious in their own right. For this reason, Clayton offers that the human mind "can be seen as an isolated peak in the evolutionary landscape . . ." (Clayton 2004, 100).

Second, Deacon's conceptual unification of the higher-order features of emergence, according to Clayton, also fails to understand the distinctive epistemic and ontological role occupied by "personhood" (see Clayton 2004, 145). For Clayton, personhood represents, negatively, an irreducible category of analysis vis-à-vis one's body, brain, and functions (see Clayton 2004, 146). Positively, personhood signals a phenomenological recognition of the uniqueness of human mental states and their feel; in effect, qualia are

indescribable both in lower-level and third-person analyses (see Clayton 2004, 120ff.). Given this dual recognition of the uniqueness of human personhood, Clayton summarizes that it should be seen as “an emergent level of reality,” one that “needs to be analyzed in its own terms and not merely in terms of the lower levels that preceded and gave rise to it” (Clayton 2008, 145). In following this dual line of argumentation, Clayton aims to show that human consciousness, broadly described, has an ontological status distinct from other robust biological systems and, furthermore, a form of causal power which separates it from complex relational dynamics.

Leaving aside a critical consideration of the above features of Clayton’s project for the moment, it is evident that his arguments for personhood serve a pivotal function in both his anthropology and theology, inasmuch as they privilege human consciousness as a distinct structural transition in the logic of emergence. As Clayton frequently notes, human consciousness can and should be seen as “a qualitative break in cognitive performance and mental experience,” one which should be spoken of as “spirit,” a property which generates our capacity for “the great achievements of human culture, art, philosophy . . . and religion” (Clayton 2009, 79–80 and personal communication). Because of this significant qualitative difference, Clayton claims that human consciousness is both ontologically and epistemically distinctive: it is a new “thing” or property, thus requiring “explanatory concepts not available at the biological level alone” (Clayton 2009, 61). Given both its distinctive phenomenology as well as its singular accomplishments culturally and intellectually, human consciousness, and its auxiliary concept of personhood, is described by Clayton as exceptional on a variety of levels. This view clearly opposes Deacon’s conception of emergence as both limited to teleodynamics as the highest level of structural organization as well as his view that emergence is not ontological. For Clayton, personhood exhibits an ontological difference that is culturally, phenomenologically, and causally grounded.

Because of the epistemic independence of consciousness, Clayton will argue that categories other than the scientific are needed to supplement our account of personhood. On one level, this means that a reliance on other “higher-level field[s] of study” (Clayton 2009, 62), such as sociology, history, and psychology, are needed to understand personhood. On another level, though, this also allows for metaphysical explanations which are appropriate to our understanding of personhood. For Clayton, a robust understanding of personhood, one which entails a suite of religious and philosophical beliefs, hints at, or suggests, the necessity of metaphysical models for understanding the human person. As he states programmatically, what is needed with respect to personhood and Spirit is “another kind of explanation that is not based on scientific superiority alone” (Clayton 2004, 181; also see 180 and Clayton 2008, 87). This more methodological assessment is followed by Clayton’s recognition that the human

quest for meaning indicates a “next step” in the hierarchy of emergence, “the hierarchy of meaning” (Clayton 2004, 192). As such, the human quest for meaning requires epistemic categories which are qualitatively different than the sciences, and may include metaphysical concepts. Clayton indicates this epistemic pluralism in the following:

Could the existence of this deeper reality be hinted at in the physical world, in cosmic history, and in the inner life of the subjects studied by psychologists, sociologists, artists, and novelists? Could not something of the divine be revealed by studying the animal that struggles with the question of God, ourselves? (Clayton 2008, 93)

Though interrogatory, there are clear lines of indication from Clayton that signal the movement from an account of human personhood to the quest for meaning to metaphysical questions. The assertion of an ontological difference in personhood, grounded in a strong articulation of emergence, naturally gives rise to metaphysical speculation about the nature and origin of the human person. Thus, while Deacon’s more homogenous reading of emergence makes clear that human consciousness is teleodynamic and symbolic in ways akin to other systems (though perhaps the best exemplar), Clayton makes clear that the ontological and causal distinctiveness of consciousness allows for, and in fact necessitates, metaphysical categories for its understanding.

Due in large part to this opening to metaphysics (which emanates from the sciences), Clayton argues that metaphysical and theistic accounts are likely necessary to understand both human personhood and the quest for meaning. This is necessitated both by the fact that the world appears rational to us (Clayton 2004, 178 and 184) and, as an attendant notion, the rationality of the world is best explained by a “trans-empirical agent” who is similar to ourselves. (Clayton 2004, 183; also see 191) The naturalness of such questioning, understood by Clayton as “spirit,” suggests its viability within theological discourse and, perhaps, its desirability as a means of understanding our account of human personhood. It also does not designate the terminus of metaphysical reflection. As Clayton boldly argues, “Once one has granted the ongoing advent of new emergent patterns, it is arbitrary to stop the progression with mental predicates” (Clayton 2008, 95). Indeed, the very questioning of meaning and the postulation of rational agents admits that such claims are both a viable part of theological discourse and of the logic of emergence itself. Clayton concludes: “If the spiritual side of personhood is emergent, then a spiritual being that transcends the world will have to be introduced as a *higher* experiential or ontological level—indeed, for theists, as the culminating level—above the level of embodied spirit that characterizes human experience” (Clayton 2008, 146). One can thus see that, for Clayton, once the ontological distinctiveness of the human person has been asserted, a suite of questions and conclusions

follow, namely the assertion of meaning and spirit as a distinctive mode of inquiry, and, finally, the introduction of God as a meaningful metaphysical and dialogical category. As seen above, Clayton will argue that such considerations are wholly in keeping with the logic of emergence, as they are questions opened up through emergence itself. That is, a scientific theory of emergence introduces questions which are extrinsic to science itself.⁵ Or, alternatively stated, in stating the extra-scientific modes of inquiry necessary to understand the human person, Clayton acknowledges the limitations of, and disjunction(s), of emergence as a sole resource for theological reflection.

Given the affinity between human questioning and the postulation of God in Clayton's thought, he can clearly argue for God as "not less than personal" (e.g., Clayton 2008, 94). That is, because an emergent anthropology necessitates theological questions and opens up onto metaphysical resources for an understanding of personhood, our understanding of God is at least partially grounded in an apprehension of ourselves. Moreover, because, according to Clayton, the logic of emergence is progressive—producing beings of increasing complexity over time—God must be seen as no less complex than the most complex level engendered in emergence: human personhood.⁶ While Clayton clearly denies the assertion of God as a being (see Clayton 2008, 164), his theology is clear to assert that God must be seen as "not less than personal" (e.g., Clayton 2008, 202) or, in echoing Arthur Peacocke, as "*supra*-personal" (Clayton 2008, 176). In addition to the above logical and scientific reasons, Clayton gives a number of reasons for this move. First, in terms of agency, one can only understand the theological notion of God's activity with reference to human activity. As Clayton states, "anyone who speaks of God as an 'agent' implies that this agent is somehow analogous to human agents" (Clayton 2008, 101). Moreover, given both the logic of emergence and traditional theological categories, one should not understand God's agency as simply of the same type as human agency, but "rather one that infinitely transcends all forms of finite agency—a creative divine, and hence, perhaps, a providential God as well" (Clayton 2008, 97; also see 149). Indeed, this feature of transcendence is critical to Clayton, as it allows for God to effectively "supervene" upon the world, emerging out of it but yet also infinitely greater than the world itself. Or, in terms resonant with other aspects of Clayton's theory of emergence, God can be seen as a "whole" vis-à-vis the world, which is a "part." This ontological difference is what allows for God to be both an agent in the world but also infinitely different, dependent upon the world but also one worthy of prayer and worship (see Clayton 2008, 101).

The above reasons for God's personal nature are clearly theological in orientation. Yet, for Clayton, they grow out of both the logic of emergence as a scientific phenomenon as well as the epistemic pluralism opened up by emergence's creation of multiple levels of ontology and inquiry. It is

equally clear, however, that theological considerations reinforce Clayton's emergent anthropology, inasmuch as the assertion of God as no-less-than-personal gives greater force to the assertion of human personhood as a distinct emergent level. What emergence therefore grants Clayton is an anthropological, philosophical, and ontological framework in which he can craft a theology that is in dialogue with the contours and outlines of the systems sciences.

However, this more pluralistic and theological orientation opens up both scientific and philosophical problems related to emergence itself. First, it is not clear, as Clayton contends, that human personhood, and therefore Spirit, represent separate ontological categories with distinctive epistemic and ontological criteria (with respect to Deacon's more limited conception of emergence). Though Clayton will argue that *qualia* and the question of meaning represent distinctive transitions in the logic of emergence, it is not clear how these qualities differ *dynamically* from the teleodynamics suggested by Deacon as the highest level of emergence. Arguably, teleodynamics provides sufficient complexity and adaptive dynamics to account for the feel of consciousness as well as the evolution of culture and self-reflexivity. Moreover, in introducing human personhood as an additional emergent level, it remains to be seen what distinctive form of causation is introduced at the level of the human which does not fall prey to causal overdetermination (similar criticisms can be leveled against Clayton's notion of divine agency). It is unknown how, precisely, "active downward causation" may function as anything other than formal constraint and goal-directed dynamics. Because of this, the distinction between Clayton's strong emergence and the less robust strong emergence of Deacon is unclear.

Second, and in line with the above, though it serves a clear theological function, it is not clear that human personhood constitutes a unique dynamical transition over-and-above other complex systems. Philosophically, this means that Deacon's more homogenous reading of emergence, though broadly generalizable, may be correct. Theologically, however, it means that human mentality may not be a necessary, or the best possible, model for both the divine nature and divine agency. Indeed, it can be argued that Clayton has very good, though extra-scientific, reasons for the privileging of human mentality, not the least of which is the preservation of significant traditional elements of Christian belief.

Taken together, these considerations serve to show that Clayton's theology does not fully maximize traction with the notion of strong emergence espoused by Terrence Deacon and others. Other considerations, such as the preservation of God's agency and analogy to human agents, play a clear role in many interpretive decisions relative to both Clayton's theology and philosophy of science. Because of this, Clayton's theology likely represents the clearest and most coherent synthesis of emergence theory and Christian theology available. At the same time, however, it means that Clayton

abandons a more strictly emergentist logic for the articulation and postulation of his theology. Philosophically, this means that Clayton may fall prey to the dual problems Deacon seeks to address, namely an inability to specify *how* consciousness and Spirit are causally efficacious within strong emergence, and, second, the fact that top-down causation must not duplicate causation found at other levels of structural organization. Theologically, Clayton will admit that there are “[a] wide variety of metaphysical models . . . available, and they are significantly different” from his own (Clayton 2008, 97). The radical emergentism of Samuel Alexander, for example, represents a more loyal allegiance to the logic of emergence (though it still posits ontological development). Clayton, recognizing the more metaphorical nature of his own project, thus does not seek to displace such theories, but, rather, to proffer a theology of emergence that is both coherent and in keeping with the dual demands of science *and* Christian reflection. As he recognizes, “Emergence is therefore a conceptual structure . . . that can lead to the category of divinity of spirituality as an emergent property in evolution. But emergence is not in the end adequate to fully explain this property. Emergence propels one to metaphysics . . .” (Clayton 2008, 132). Given the open-ended nature of metaphysical reflection, the models one uses are inevitably diverse and potentially equally coherent.

It is with the above considerations in mind that I briefly sketch below an alternative religious interpretation of emergence, one which, I propose, more clearly maximizes traction with the emergent dynamics examined by Terrence Deacon. Such an interpretation is not offered as a displacement of the theology examined above, but, rather, as a means of articulating the significance of emergence without the scientific and philosophical problems discussed above.

NONPERSONAL THEOLOGY: NAVAHO THOUGHT AND EMERGENCE

The critical hallmarks of emergence, as seen in the discussion of Deacon previously, are the emergence of new forms of constraint over time, the evolution of systems whose dynamical features contribute to normativity, and, negatively, an undercutting of ontological and axiological interpretations of emergence. Read strictly, these features of emergence deny an ontological theology of emergence in which God “emerges out of” the world (in the style of Samuel Alexander), a privileging of particular individuals within emergence (see above), or even minimalist forms of divine causation which run the risk of being over determinative.

A more strict religious interpretation of emergence, then, would be, contrary to Clayton, *less than personal* (or systemic and depersonalized), normative, and one whose agency operates through forms of systemic normative constraint. Clayton, at various points, recognizes that a religious interpretation along such an outline is a logical outcome of the logic of

emergence; yet, in keeping with his more tiered reading of emergence, he denies such a depersonalized reading on the grounds that a divine principle would represent a “lower form” of causality than that seen in human consciousness (Clayton 2008, 97). This objection can be denied, though, inasmuch as human consciousness does not represent an ontological break from other forms of teleodynamic causation. Systemic normative constraint would thus be a higher form of causation than that produced in other teleodynamic systems.

There are a number of religious concepts which fit the above desiderata for an emergent religious interpretation. The concept of the *Tao*, for example, can be seen as emergent inasmuch as it arises out of the natural world and exhibits a form of depersonalized normative constraint on its parts. While I do not wish to deny such an interpretation, I would also offer that indigenous religious concepts, particularly those found in the Navaho of the American Southwest, can offer robust theological resources which are in keeping with the logical and philosophical demands of a scientific theory of emergence.

Navaho religious thought is “emergent” on an immediate level, inasmuch as its creation story explicitly tells of a progressive complexification of behaviors, body forms, and environments, as a group of prehuman First People successively emerge out of a series of four other worlds and into a fifth, our current world (Zolbrod 1984, 39ff.). This world is then also allowed to evolve from a state of simplicity to one of biological, cultural, and aesthetic complexity. In the present, Fifth World, the First People undertake the task of creating a world which is habitable for humans, aesthetically beautiful, and harmonious. The key concept which guides such creation, and is also the outcome of this creative activity, is *sa’ah naaghai bik’eh hoozhon* [SNBH], a compound term which has been roughly translated as “long life beauty happiness,” “harmony,” or “long movement towards beauty.” Because SNBH uses a verb form of “to go” (*naaghai*), it thus indicates a process of moving toward a natural order (Witherspoon 1977, 49 and Jim 2000, 237). This term, when combined with *bik’eh*, which denotes normative natural law (Jim 2000, 235), and *hoozhon*, which means beauty, harmony, and balance (Jim 2000, 235), allows for SNBH to be seen as the long movement toward a state of natural order, beauty, and equilibrium. Indeed, SNBH is the realization of both natural processes and a final telic state, harmony.

As such, SNBH has been consistently seen as both a cosmological, biological, and moral anchor in the Navaho world. SNBH is given as an environmental and metaphysical principle which is generalizable, abstract, and indefinite (see Farella 1984, 159). Because it is designed for broad application, SNBH may be seen as a normative ethical ideal for individuals, in which the purpose of life is to “walk in beauty’ and live a harmonious life” (Lee 2006, 92; also see Jim 2000, 232); a principle of natural equilibrium,

or a “positive or ideal environment” in which proper relationships are maintained (Witherspoon 1977, 24); or a cosmic principle which refers to the benevolent structuring of the universe according to esthetic and ethical criteria. SNBH operates as a normative teleological and structuring principle on each level, allowing for harmony and balance to be seen in a variety of dynamics.

Moreover, SNBH as both a structuring and organizing principle is seen as emergent, inasmuch as it relies on proper relationships between component parts. Linguistically, *sa'ah naaghai* is male, and, in Navaho mythology, exhibits male qualities; likewise, *bik'eh hoozhon* is female (Benally 1994, 24). Both terms cannot operate linguistically apart from one another, and are, as male and female, complementary. SNBH is thus often anthropomorphized as a loving couple in Navaho mythology, Long Life Boy and Happiness Girl, the first gods who are created by the First People and who animate the world as a structuring principle (see Wyman 1970, 28, 112, and 289). Similarly, happily married couples are said to be moving toward SNBH, and, as Farella states, “there seems to be a feeling that a couple represents a stronger entity than does a single person” (Farella 1984, 174). Or, in more abstract terms, the complementary and indissociable pairs of thought and speech are denoted as SN and BH, respectively (Witherspoon 1977, 29). Finally, each of the two gods placed at the sacred mountains of the Navaho world respectively possesses SN or BH, meaning that the two are only complete when paired together (see Farrella 1984, 173). Because of this consistent complementarity and whole-part logic in Navaho thought, Witherspoon concludes that the constitution of this world

is a complementary and holistic diversity bound together by a common kindred with the Earth [as SN] and the Sky [as BH]. The primary theme of this world is a dynamic and diverse harmony . . . These particular, profound, and important truths are embodied in and expressed by the concept of emergence. (Witherspoon 2005, 264)

Or, as Farella summarizes, noting the logic of emergence, “[SNBH] seems very analogous to our concept ‘system.’ It bounds entities which may contain within them other entities, as well as themselves being contained by larger entities” (Farella 1984, 174). By employing a consistent logic of complementarity, nesting, whole-part relations, and right relation for the sake of a teleological property—harmony—SNBH can be interpreted as a form of higher-level emergence. Using the language of Deacon, it refers to a systemic propensity toward a particular end-state. This end-state thus serves as a form of normative constraint which helps order the dynamic relations between constituent parts.

A twofold logic thus pervades the concept of SNBH. On the one hand, SNBH indicates proper relations between naturally complementary parts; on the other hand, SNBH is an end-state which entails normative harmony.

With respect to the latter dimension of SNBH, it is seen as a desirable state of harmony that exists in the first worlds (prior to emergence; Zolbrod 1984, 41 and 44) which is opposed by its negation, selfish individuality, and disorder (see Zolbrod 1984, 69 and 94). Married couples are said to mirror this universal harmony, too; the marriage between the Sun and Changing Woman (the primary female Creator figure for the Navaho) is marked by the following marital vow: “Unlike each other as you and I are, there can be no harmony [*hozho*] in the universe as long as there is no harmony between us” (Zolbrod 1984, 275). SNBH is also invoked upon the building of a new home (Wyman 1970, 114ff), the creation of human beings in the Navaho creation story (Wyman 1970, 243), and as a prayer upon the birth of a child (Wyman 1970, 337). For this reason, SNBH can be seen as the ideal outcome of all relational processes in Navaho thought. Those relationships which are aligned with the initial order and harmony of the world thereby exhibit an order and harmony of their own, an emergent quality which is irreducible to its component parts. Moreover, as the desired end-state of all entities and processes, SNBH exerts a form of normative causal efficacy, ordering relations between individuals and systems.

As a principle, however, the causal efficacy of SNBH is limited. SNBH is nonagential, as it is a dynamic that emerges between parts and systems. The only way in which SNBH is instantiated as a principle is through the activity of individuals in ordered and right relation to one another. The “Eight Word Prayer,” found in the Blessingway ceremony, for example, uses conditional verbs such as “will” or “shall” to indicate the fact that it is incumbent upon individuals themselves to bring forth SNBH as a normative principle. As the prayer concludes, “I shall be long life-happiness, before me it will be blessed, behind me it will be blessed, it has become blessed again, it has become blessed again!” (Wyman 1970, 299) As Leland Wyman summarizes, “All Navajos should identify themselves with [SNBH]. This is the goal in life, and Blessingway by constant repetition reminds the native to seek this goal, to become long-life happiness [SNBH] . . .” (Wyman 1970, 29). The same relational dynamics obtain for nonhuman animals and ecological processes. SNBH, as an ideal end-state, can only be arrived at through the ordered and balanced interaction between agents and processes. That is, in terms of emergence, SNBH acts as an attractor state, modifying the behavior of different individuals and systems through constraint.

This dimension of Navaho thought is particularly evident in its complex rituals and forms of healing. The goal, in curative rituals and in simple prayer, is for the practitioner to become aligned with SNBH, which is both the initial, harmonious state of the world, and its desirable end-state. As Gary Witherspoon notes, “Navajos generate *hozho* in their minds and souls or incorporate *hozho* within themselves by ritual identification with

the Holy People who possess it. This ritual identification allows the *hozho* that radiates from the Holy Person to extend to and be incorporated in the being and mind of the patient through prayer and song, symbol and sand painting” (Witherspoon 1977, 191). Healing and prayer, then, for the Navaho, are performative acts whereby SNBH is restored in a practitioner through identification with gods and natural processes which possess SNBH. In both a symbolic and literal sense, Navaho healing involves the restoration of a universal principle as well as, on a practical level, a “re-establishment of proper relationships according to the principles of SNBH” (Lewton and Bydone 2000, 480; also see 483). SNBH acts in ceremonial contexts as a normative ideal, then, which demands certain forms of action and responsibility from practitioners. As Witherspoon nicely summarizes, “Beauty [SNBH] is not to be preserved but to be continually renewed in oneself and expressed in one’s daily life and activities. To contribute to and be a part of this universal *hozho* is both man’s special blessing and his ultimate destiny” (Witherspoon 1977, 178; also see Jim 2000, 239). Rather than operating through invocation, Navaho ceremony operates through ritual identification with SNBH and a call to responsible and harmonious relations with others.

I would argue that the Navaho ritual apparatus is symptomatic of a greater philosophical principle operative in the Navaho world, namely the fact that SNBH is achieved through the concerted and emergent activity of multiple actors, both human and nonhuman. SNBH is only instantiated inasmuch as agents operate in ordered relationships with one another, a process requiring both discernment and directedness toward SNBH itself. As Benally recognizes, this means that interconnectedness is a key feature within Navaho thought—all beings are attracted toward SNBH through the various systems and relations with which they interact (Benally 1994, 30; Witherspoon 2005, 258). Moreover, these equilibrium dynamics operate at multiple levels of scale, as SNBH can be operative in bacteria, marriage, culture, and ecosystems. This more generalizable dimension of Navaho thought allows for various and often divergent phenomena to be seen as instantiations of a common constitutive and normative principle.

The analogies here with emergence theory are clear. As a principle, SNBH operates through absence, constraining the behavior of systems and complex entities as they evolve toward normative equilibrium and harmony. Equilibrium, in turn, is dependent upon relational dynamics between ordered sets of actors and interactions. In this way, SNBH is a less-than-personal means of addressing the significance of emergence theory, as it merely extrapolates from local systems of teleodynamic organization to global principles of normative functioning. And, as generalizable, SNBH does not give epistemic or ontological privilege to any particular level of the emergent world. Rather, SNBH can be instantiated at multiple levels of scale, independent of complexity. Finally, as a religious principle, SNBH

signifies both the complex interrelationships of natural systems as well as the personal responsibility entailed for individuals enmeshed within the natural world.

CONCLUSION

Recent developments in the systems sciences indicate that “strong” emergence may be a plausible explanatory framework for the functioning of complex systems. These developments are both philosophically and theologically significant. Philosophically, a plausible theory of strong emergence must articulate both how complex entities exhibit causal properties different than their constituents while also showing that such causation is not duplicative. The theory of strong emergence proffered most notably by Terrence Deacon, who relies on notions of absence, normativity, and teleodynamics, answers these concerns, and, in the process, denies a substantialist notion of higher order causality. Theologically, those theologies which seek maximum traction with scientific and philosophical models of strong emergence should either adopt nonagential concepts of higher order functioning, or, as in the work of Philip Clayton, recognize the limitations of emergence as a guiding metaphor for theological reflection. For Clayton, emergence is helpful in generating both a view of natural history and a partial theological anthropology, but it is insufficient in granting full-fledged metaphors for the agency and being of God. As an alternative to Clayton’s more personalistic conception of God and strong emergence, in the latter part of this paper I argued that nonpersonalistic religious concepts, such as SNBH, have a greater analogical affinity to emergence and point to the ways in which the world generates both goal-oriented and equilibrium behaviors in an ideal state.

While the example of Navaho theories of emergence and nonpersonalistic agency has value in its own right, it also illuminates the fact that, if contemporary theologies of emergence are to aim for full traction with the sciences, then traditional conceptions of agency, causation, and ontology need to be reevaluated. Indeed, if emergence is to provide a store of metaphors or a locus of theological concern, then an understanding of the divine will also necessarily be limited in terms of the conceptual and theological resources upon which it calls.

NOTES

1. As Bedau states, “The characteristic feature of weak emergence, in general, is that the macro is ontologically and causally reducible to the micro in principle, but the reductive micro-explanation is especially complex” (2008, 445).

2. There are other theories of emergence which clearly wrestle with both the philosophical and scientific dilemmas presented by emergence. This article will deal with the work of Deacon not only as a practical matter, but due to the fact that Philip Clayton himself (see second section) highlights Deacon’s work as being of particular relevance.

3. This is not to be confused with the weak emergence discussed earlier, and most notably endorsed by Mark Bedau (2008).

4. Unfortunately, Clayton is not clear as to what constitutes the causal power of new complex entities. In Clayton (2004, 96), for example, he grants that complex entities are “causal forces in their own right.” He later argues that “Top-down causal effects are present at multiple levels, though the nature of the ‘wholes’ that influence the behavior of parts varies across the levels” (196). Arguably, these proposals do not sufficiently argue for the nature of top-down causation over-and-above formal constraint.

5. Though they should not be seen as undermining or trumping science.

6. This ostensibly allows for a greater degree of traction (see beginning of this section) with the scientific evidence, though emergence itself need not be seen as progressive or in any way teleological. This view must also be supplemented by Clayton’s account of panentheism as well as traditional theological conceptions of God, which I do not have the space to cover here. See Clayton (2008) for a more complete discussion of the attributes of God and the ways in which they contribute to an understanding of God as “not less than personal.”

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