

Research Article

Metaphysics for a World in Evolution

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Abstract | Metaphysics as theoretical framework for more empirically oriented research in science and in the humanities seems to be either ignored or regarded with great suspicion at the present time. Natural scientists, for example, by and large employ an instrumentalist approach to the study of the laws of nature. Their aim is to deal, not with things in themselves (the Kantian noumena) but with their empirical manifestation (Kantian phenomena) via tentative hypotheses subject to empirical verification. In the humanities, there is deep suspicion of so-called “meta-narratives” that offer a comprehensive vision of reality on the grounds that their authors are consciously or unconsciously trying to control the thinking and behavior of others. Yet, as Colin Gunton points out, human beings, thus faced with an enormous diversity of options in virtually every area of human life, end up making important decisions simply on the basis of momentary personal preference. In this article, I first review the classical philosophical understanding of the relation between the One and Many in which the One is conceived as ontologically prior to the Many as their necessary principle of unity and intelligibility. I then propose a new paradigm for the relation between the One and the Many in which the Many by their dynamic interrelation from moment to moment initially co-create and then sustain the One not as a higher-order individual entity but as their conjoint energy-source and ongoing field of activity. The One can then be readily integrated into a hierarchical ordered system of fields within fields at all levels of existence and activity within nature. In the final part of the article, I indicate how this new field-oriented understanding of the relation between the One and the Many may help to solve controversial issues in natural science and Christian systematic theology.

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Introduction

Classical metaphysics, indeed metaphysics in any form as a legitimate field of academic endeavor, seems to have fallen on hard times. Natural scientists, for example, seem by and large to have adopted an instrumentalist approach to the study of the laws of nature. That is, like Emmanuel Kant in his celebrated *Critique of Pure Reason*, they recognize the difference between *phenomena*, things as they appear to us in hu-

man experience, and *noumena*, things as they exist in their own right. Abandoning the claim to objective knowledge of the workings of the *noumena*, they set forth in mathematical formulae their human understanding of the laws of nature governing the *phenomena*. Kant, of course, thought that he was providing in the *Critique of Pure Reason* universal apriori structures governing all forms of human cognition everywhere. Further anthropological research into the different cultures of the world, however, has led anthropologists

and other social scientists to conclude that different ethnic groups have significantly different experiences of physical reality and as a result make different value judgments on the basis of those culturally conditioned experiences. Kant himself acknowledged the inevitable subjectivity of human cognition: “reason has insight only into that which it produces after a plan of its own” (Kant 1956, B xiii). But as a child of the Enlightenment in Western Europe, he still believed that he had restored the objectivity of human knowledge in the face of David Hume’s skepticism about the reality of the self as organizing principle of its own perceptions (Hume 1967, 207-08). Natural scientists today, however, are more modest in their claims to objectivity. They proceed on a hypothesis-verification basis to the analysis of empirical data (*phenomena*) and subject the results of their research to critical evaluation by their peers in the same field before concluding that the hypothesis in question is in all likelihood true. Yet this understanding of scientific method also tends to exclude any speculation about the *noumena* in terms of an overarching metaphysical scheme.

Likewise in the humanities, appeal to metaphysics as an overarching world view for the analysis and critique of traditional textual sources (e.g., classic works of literature, the Bible and the sacred texts of other world religions, schematic overviews of human history) seems to be giving way to a deep distrust in the objectivity of human knowledge. For example, Martin Heidegger in his celebrated book *Being and Time* claimed that classical Western metaphysics is not the study of being but the study of God as the Supreme Being in God’s relation to the finite beings of this world (Heidegger 1962, 19-35). Hence, theology with its inevitable grounding in subjective faith is actually “onto-theology,” not (as alleged) the analysis of reality in terms of objective reason. Some years later, Emmanuel Levinas in his book *Totality and Infinity* critiqued what he called the totalizing character of traditional metaphysical schemes. That is, these thought-systems, however unintentionally, subordinate all the individual persons or things of this world to the logic of an a priori scheme which alone gives them enduring meaning and value (Levinas 1969, 21-30). Infinity (the mysterious character of life in this world) is rather to be found in the “face” of the Other, the objective manifestation of an individual’s subjectivity here and now that cannot be fully comprehended by reason alone (Levinas 1969, 51). Along the same lines, Jean-Francois Lyotard, a French post-

modern philosopher, coined the term “meta-narrative” or grand narrative in order to claim that efforts to provide an objective overview of human history are doomed to failure (Lyotard 1984, xxii-xxiv). Consciously or unconsciously, the authors of meta-narratives are trying to control the thinking of others in favor of their own convictions and values. Finally, Jacques Derrida, using a deconstructionist approach to the analysis of language, claimed that the meaning of words in speaking and writing is never fixed but always “deferred” through reference to still other words by way of explanation (Derrida 1982, 3-27). As I see it, all of these thinkers are representative of a modern tendency within the humanities as well as within the sciences to distrust the alleged objectivity of human reason as necessary critique and eventual replacement for arbitrary pronouncements coming from external authorities, religious or secular.

Yet there are voices coming from both the contemporary scientific community and from the humanities that lament the loss of a cosmic worldview or philosophical cosmology to govern human thinking and behavior. For example, a well known philosopher of science, Stephen Toulmin, published in 1982 *The Return to Cosmology: Postmodern Science and the Theology of Nature* in which he claimed: “The world view of contemporary, postmodern science is one in which practical and theoretical issues, contemplation and action, can no longer be separated; and it is one that gives us back the very unity, order, and sense of proportion – all the qualities embraced in the classical Greek term *cosmos* – that the philosophers of antiquity insisted on, and those of the Renaissance destroyed” (Toulmin 1982, 264). That is, the ongoing specialization of scientific disciplines for the sake of more pointed research and accurate empirical results must not be allowed to destroy the possibility of a tentative but still working model of the natural order within which all these scientific disciplines have a place vis-à-vis one another. Similarly, the English systematic theologian Colin Gunton published in 1993 *The One, the Three and the Many* in which he first laid out the ills of contemporary Western culture in terms of an exaggerated emphasis on particularity and individual uniqueness in conscious opposition to the rules and regulations of life in society today. Then, by way of response, he appealed to the notion of perichoresis in the doctrine of the Trinity among the Greek Fathers of the Church as an apt paradigm for a more balanced relation between particularity and universality

in modern life (Gunton 1993).

That is, in Gunton's view human beings are at present overwhelmed by the enormous diversity of lifestyles and perspectives to be found in modern life. As a result, they find themselves unable to make a decision as to what is true and good except in terms of individual preference (Gunton 1993, 101-25). Yet *perichoresis*, total sharing of existence and activity among the three divine persons of the Christian doctrine of the Trinity, makes clear that in God corporate unity and complete diversity of individual parts or members are fully compatible with one another. Each divine person finds "his" individual identity in and through community, his dynamic interrelationship with the other two persons. Thus all three are needed both to define their difference from one another as individual divine persons and to establish their corporate unity with one another as numerically one God (Gunton 1993, 149-54). As created in the image and likeness of God (Gen. 1/26), human beings should in principle be able to relate to one another in such a way that each one's individual identity is heavily conditioned (though not fully determined) by his or her corporate identity or "social location," the role that he or she regularly plays within the ongoing life of the community to which he or she belongs. Furthermore, if this "trinitarian" model for the relationship between the One and the Many is transposed to creation as a whole, the entire world can be seen as a cosmic community of entities that find their particularity or individual identity not in themselves but in their ongoing dependence on one another for both individual and corporate existence and activity (Gunton 1993, 166-73). A potential flaw in the logic of Gunton's argument, however, is that he seems to depend on antecedent belief in the Christian doctrine of the Trinity for solution of what he sees as the ills of contemporary human life. In this sense, Gunton could be accused of "onto-theology," as Heidegger understood it. That is, he sets forth an allegedly philosophical hypothesis about the nature of reality that is actually grounded in an antecedent religious belief rather than in rational reflection available to believer and non-believer alike.

Accordingly, in this article I treat the *perichoresis* of the three divine persons simply as an apt illustration of a purely philosophical hypothesis about the relation between the One and the Many. The article is divided into four parts with this brief Introduction as the first part. In part two of the article, I review various shifts

in the understanding of the classical paradigm for the relation between the One and the Many in the history of Western philosophy from the time of Plato to the present day. Then, in the third part of the article I set forth an alternate process-oriented understanding of the relation between the One and the Many based on the metaphysical system of the English-American philosopher, Alfred North Whitehead. Finally, in part four, I briefly sketch how this new process-oriented paradigm for the relation between the One and the Many could be helpful in other fields of academic research and speculation: first of all, for natural scientists in better understanding the emergence of higher forms of existence and activity within the cosmic process via bottom-up rather than top-down causation; secondly, for Christian systematic theologians in explaining the notion of panentheism, all things existing in God but remaining distinct from God in their own finite identity at the same time. Panentheism is an attractive middle-ground position between dualism (the logical opposition of matter and spirit) and pantheism (either the collapse of matter into spirit or vice-versa), provided that one can solve the knotty problem of the One and the Many inevitably involved therein.

Historical Shifts in Understanding the Classical Paradigm for the relation between the One and the Many

The origin of the classical model of the One and the Many is to be found in ancient Greek philosophy and its continuation in the understanding of the God-world relationship by Thomas Aquinas and other medieval philosopher/theologians (Bracken 2009, 9-23). In his analogy of the cave in the *Republic*, for example, Plato asserted the ontological priority of the Forms or transcendental Ideas over the confusing data of sense experience (Plato 1962: Bk. VI, 509D-511B; Bk. VII, 514A-521B). By implication, truth and objectivity are to be found in the unchanging world of ideas (the intelligible One), not in the ever-changing phenomena of sense experience (the empirical Many). Aristotle in his *Metaphysics* basically continued this line of thought with his claim that physical entities are composed of form and matter, with the unchanging unitary reality of the substantial form serving as the principle of order and intelligibility for the multiple material attributes of the entity in question (Aristotle 1928, 1031a-1032a). Then in the medieval period of Western philosophy, Thomas Aquinas in his multivolume *Summa Theologica* claimed that God's essence or

nature is identical with his act of existence (Aquinas 1948: I, Q. 3, art. 4). Thus there is no duality in God; God is the transcendent One who is likewise the Creator and Sustainer of the finite world (the empirical Many). All things in this world are ordered to one another and to God in terms of intelligible forms or principles eternally present in the divine mind. There were, to be sure, medieval thinkers like Duns Scotus and William of Ockham who challenged the heavily apriori character of Aquinas's understanding of the God-world relationship. Scotus, for example, claimed that any given empirical reality is inevitably multi-dimensional so that it cannot be fully grasped in terms of a single concept or essence (Ingham and Dreyer 2004, 33-38). Ockham departed even further from Aquinas's mental world of universal ideas in his claim that such concepts are simply tools for the classification of entities in terms of similarities and differences (Jones 1952, 321).

Moreover, in the sixteenth century with the development of a new more empirically oriented approach to physical reality in scientific research, this world of apriori universal forms that characterized the thinking of so many in the Middle Ages was even more strenuously challenged and in the end largely replaced by a more individualistic and in a qualified sense empirical approach to philosophy and theology. René Descartes, for example, began his philosophical system with appeal to the individual self rather than to some cosmic vision of the God-world relationship: "I think; therefore, I am" (Descartes 1960, 82). This indisputable empirical truth then led him to affirmation of the existence of God as the necessary source of the "innate idea" of infinity and, thirdly, to affirmation of the real existence of the external world, given the unquestioned veracity of God as its Creator (Descartes 1960, 101). As a result of this more empirical starting-point, for Descartes the locus of the One shifted from God as First Cause and Ultimate End of the universe to the individual self as the center and organizing principle of its own mental world, a world of sense perceptions and abstract ideas drawn from those sense perceptions. Descartes's successors on the European continent, Spinoza and Leibniz, continued the ancient and medieval tradition of deductive thinking on the basis of antecedently known first principles; but in England the English empiricists Locke and Hume took a much more consciously phenomenological approach to the analysis of human understanding of reality. Both Locke and Hume made the individu-

al self in its day-to-day operations the starting-point for their reflection on the possibility of truth and objectivity in the way human beings experience the world around them. In thus limiting himself to the analysis of sense perceptions and their classification in terms of more or less vivid mental "impressions," Hume ended up denying the possibility of objective knowledge both of the law of cause-and-effect and of the existence of the individual self as observer of the alleged workings of cause and effect in nature (Hume 1967, 207-08). In his *Critique of Pure Reason*, Immanuel Kant "saved" the objectivity of the law of cause-and-effect and of the empirical self through appeal to the workings of an invisible transcendental self within the human mind that organized the empirical data of consciousness in terms of universal apriori categories of cognition or understanding (Kant 1956, B xvi, 132). Here too, of course, the locus of the One in terms of one's antecedent understanding of the relation between the One and the Many was no longer God but the empirical self. As a result, the independent objective reality of God, the transcendental self and the world could not be proven on the basis of the empirical data of consciousness but were simply postulated as preconditions for the moral life (Collins 515-43; esp. 531-34).

There was, to be sure, a brief return to an overarching vision of reality in the writings of the German Idealists, especially Schelling and Hegel (Collins 1954, 544-661). Moreover, Karl Marx like Hegel "was a systematizer in the grand manner and he too held that the key to system is dialectic," the progressive overcoming of alienation through the synthesis of opposite forces or tendencies in human life (Jones 1969, 178). But whereas Hegel saw alienation as "a stage in the development of the [human] spirit toward increasingly full and articulated self-consciousness," Marx saw alienation as the estrangement of workers from the fruits of their work in virtue of an oppressive economic system (Jones 1969, 180). Marx, accordingly, was much more concretely and thus empirically oriented than Hegel in his own form of systematic reflection on the nature of reality. Furthermore, Søren Kierkegaard and many of his contemporaries were not attracted to the philosophy of either Hegel or Marx. Their approach to philosophy was more existential; they studied the feelings of the individual self in dealing with its own private interests and desires for clues to the deeper meaning of life. More logically oriented systematic thinking continued to be the *modus agendi*

among natural scientists and proponents of the new social sciences (sociology and psychology) in the 19th and 20th centuries. But, as I indicated at the beginning of this article, relatively little attention was given to the deeper metaphysical issues at stake within their research based on a hypothesis-verification approach to reality.

A New Process-oriented Paradigm for the Relation between the One and the Many

In the classical understanding of the relation between the One and the Many, the One is seen as a higher-order entity that brings order and coherence to the Many as lower-order entities with only external and purely contingent relations to one another. In this new process-oriented understanding of the relation, however, the Many through their ongoing dynamic interrelation co-produce the reality of the One, not as a higher-order entity but as a higher-order structure or pattern of existence and activity for one another within a shared field of activity. That is, a socially constituted entity (e.g., a human community or a natural environment) comes into being with determinate internal structures and external boundaries vis-à-vis other similar socially organized realities (Bracken 2012, 61-124; Bracken 2014). But is there any precedent in contemporary Western philosophy for such a dramatic rethinking of the classical relation between the One and the Many? In my judgment, it is present in the metaphysics of Alfred North Whitehead.

Born in England in 1861, Whitehead had a distinguished career in mathematics and theoretical physics before his interests turned to philosophical cosmology. As he makes clear in one of his early philosophical works *Science and the Modern World*, the brilliant achievements of early modern natural science in 17th and 18th century Europe nevertheless concealed a major defect in metaphysical reflection on the nature of physical reality. That is, following Descartes, natural scientists simply presumed that mind and matter are separate realities, and that matter (the non-human physical world) is governed by mathematical laws and principles that do not equally apply to the realm of mind or spirit. The result was a strongly dualistic worldview. Since natural scientists increasingly relied on sophisticated mathematical schemes to explain the quantitative dimensions of reality, the implicit criterion of truth and objectivity in the natural sciences became empirical measurement. What can be em-

pirically measured is real; what cannot be mathematically measured may be illusory or, as John Locke maintained vis-à-vis primary and secondary qualities in human sense perception, subject to still unknown workings of the mind (Locke 1974, 134-43). As a consequence of this dualistic approach to reality, the physical world came to be widely seen as a cosmic machine that human beings could manipulate to their own advantage with the aid of advanced mathematics. Value judgments based on awareness of Nature's deeper reality as an organic totality with dynamically interconnected parts or members within which human beings play an important but still only instrumental role were effectively lost from sight (Whitehead 1967, 39-74).

In Whitehead's view, there were two logical fallacies in this largely mechanistic approach to nature. First, there was the fallacy of "simple location," namely, that the material things of this world "can be said to be *here* in space and *here* in time, or *here* in space-time, in a perfectly definite sense which does not require for its explanation any reference to other regions of space-time" (Whitehead 1967, 49). Material things, in other words, have contingent external relations to one another in space and time that can be mathematically measured with great precision. But they are not otherwise affected by these other entities except under the influence of external forces (e.g., gravity or electromagnetism) or as a result of intervention into their ongoing operation on the part of some intelligent agent with a predetermined game-plan or blueprint in mind. The second logical fallacy followed from the first, namely, the fallacy of misplaced concreteness, mistaking the clarity and precision of an abstract mathematical formula for full understanding of the concrete reality of a given set of physical entities that are in ongoing dynamic interrelation as constitutive parts or members of some organic totality (Whitehead 1967, 58-59).

To remedy this oversight and to set forth a philosophical cosmology in which everything would be connected with everything else, Whitehead made a bold move. Instead of claiming that the world is made up of individual entities that first exist in their own right and then take on various spatial and temporal relations to one another, depending upon circumstances, Whitehead proposed that "nature is a structure of evolving processes" (Whitehead 1967, 79). That is, in Whitehead's view the "final real things of which the

world is made up” are mini-processes, “actual entities” or momentary self-constituting subjects of experience (Whitehead 1978, 18). Each such actual entity “prehends” the diversity of self-constitution in all its predecessor actual entities within the macroscopic world, responds in terms of its own “superject” or objective pattern of self-constitution and thereby adds its own modest structural reality to the unity in diversity of the overall cosmic process, but in particular to the “society” or given set of actual entities to which it immediately belongs (Whitehead 1978, 34-35)¹. Contrary to the deliverances of common sense experience, then, there are no stable relatively unchanging things making up this world but instead dynamically interconnected subjectively constituted events. These psycho-physical events have each an objective pattern of existence and activity that, taken together, constitute a continuous process or system. But we human beings have trouble grasping ongoing processes as they occur. Instead, we have learned mentally to “freeze” these processes so as to identify them as relatively stable persons and things. Contrary to the way in which we normally perceive it, then, nature is a tightly organized organic reality, an ongoing unity in diversity of dynamically interrelated parts or members, not a cosmic machine with individual persons and things operating in relative independence of one another.

Does this Whiteheadian understanding of the workings of nature verify or correspond to the new process-oriented paradigm for the relation between the One and the Many that I sketched above? I believe that it does. For the two theories, the one dealing with a new evolutionary approach to the relation between the One and the Many and the other derived from the metaphysics of Whitehead in his efforts to replace a purely mechanical approach to the workings of the natural world with a more organic, process-oriented understanding of reality, seem to reinforce one another. Both, for example, emphasize bottom-up rather than top-down causality, the ontological priority of the Many over the One rather than vice versa. In the final section of this paper, I will apply this joint hypothesis first to possible better understanding of a controversial issue in contemporary natural science and then to better comprehension of a similar contested issue in Christian systematic theology.

Application to controversial issues in natural science and in Christian theology

Almost thirty years ago in the preface to his book *At Home in the Universe*, Stuart Kauffman at the Santa Fe Institute in New Mexico challenged the claim that natural selection is the exclusive mechanism for biological evolution: “Another source – self-organization – is the root source of order. The order of the biological world, I have come to believe, is not merely tinkered [a consequence of chance mutations], but arises naturally and spontaneously because of these principles of self-organization – laws of complexity that we are just beginning to uncover and understand” (Kauffman 1995, vii). By his own admission, Kauffman was working with computer-generated models of molecular interactions rather than with empirical interactions as such, given the length of time normally needed to study changes in various groups of molecules as they actually happen. But his basic hypothesis should in principle hold true in either case: namely, that natural selection only comes into play after a certain level of self-organization at the prebiotic level has already taken place. At that point, natural selection selectively weeds out those attempts at self-organization that are de facto working from those that are already or will soon prove to be a failure. If this be the case, then the transit from non-life to life at the cellular level and then from lower-level to higher level forms of self-organization within more complex organisms should simply be the result of internal bottom-up causation and not be dependent upon externally imposed top-down causation. That is, there should be no need for the introduction of an immaterial “soul” or some other life-principle into the organism from the outside at a given point of its growth in order and complexity.

Kauffman’s daring hypothesis in the 1990’s was not greeted with enthusiasm by the majority of those at work in the life-sciences largely because of the widespread acceptance of the doctrine of “Neo-Darwinism,” the combination of contemporary genetic theory with Darwin’s own explanation of natural selection in *The Origin of Species*. But in the intervening years researchers in both the life-sciences and the neurosciences have looked for some middle ground position between pure chance and intelligent design to explain growth in order and complexity within nature. A distinction between intentionality and directionality in the workings of nature would seem to be a first step. That is, an organism can exhibit directionality in its instinctive behavior (e.g., the ongoing search for nutrients to sustain itself) without intentionally or consciously choosing to move in one direction rath-

er than another. But what accounts for that built-in directionality for the organism if not some hitherto undetected principle of self-organization?

In 2008 Jesper Hoffmeyer claimed that molecular processes “cannot be exhaustively described in chemical terms, since such processes, by virtue of their very participation in the constitution of the fundamental processes of life, functionally become distinctive bearers of life’s critical semiotic relationships” (Hoffmeyer 2008, 4). His philosophical guide for this new science of biosemiotics was Charles Sanders Peirce’s earlier analysis of signs and their interpretation both in human life and by extension in the world at large. On that philosophical basis Hoffmeyer proposed that molecules at the prebiotic level of existence and activity interpret various signals or natural signs involved in their ongoing interaction with one another and with the external environment. Given this kind of communication between molecules at the prebiotic level of existence and activity in nature, there is good reason to think that an inbuilt principle of self-organization rather than a “soul” or some other immaterial life-principle is all that is needed to account for the move from non-life to life. Similarly, Terrence Deacon insists in a recent book *Incomplete Nature: How Mind Emerged from Matter* that downward causation cannot be interpreted as any kind of efficient causation. “Downward causation must be interpreted as a case of formal causation, an organizing principle [operative from within the organism]” (Deacon 2012, 232). Thus Deacon also believes that the emergence of new forms of life in nature does not require the introduction of an immaterial life-principle but that it can be sufficiently explained in terms of a bottom-up process-oriented approach to the body-mind complex.

Here, however, one may object that in terms of conventional human experience our bodily activities seem to be largely controlled by our minds. Is this not proof enough for top-down causality in body-mind interaction? To respond to that objection, one must like Deacon carefully distinguish between efficient and formal causation within the organism. Is the soul or life-principle naturally emergent out of the workings of dynamically interrelated processes in the brain and the rest of the body? Or is the soul a formal immaterial life-principle that, having been introduced into the body by divine intervention or some other extrinsic agency, now actively controls all lower-level bodily activities within the organism? In terms of the ongoing

relation between the One and the Many, is the One a new form of order and organization for the organism as a whole produced by activities proper to the body (above all, neuronal activity in the brain) or is it a new higher-order immaterial entity introduced into the organism at a given point so as to take over control of the body in all its multiple lower-level functions and activities? Here, in my judgment, is where Whitehead’s notion of “structured societies,” societies composed of subsocieties of actual entities in dynamic interrelation, is especially valuable to explain the abstract notion of bottom-up causality in the workings of living organisms, especially in ourselves as body-mind composites.

In *Process and Reality*, for example, Whitehead indicates how his understanding of the body-mind relation in human beings is different from that of Thomas Aquinas and other classical metaphysicians. Aquinas conceived the soul as an active immaterial principle that is dynamically linked with the body but is necessarily different from the body as a material reality (Aquinas 1948: I, Q. 75, art. 2). For Whitehead, however, the mind or soul of a human being is the “regnant” subsociety among all the subsocieties making up the structured society of the human being as a whole. As such, the mind or soul receives “a peculiar richness of inheritance” of information from the brain and all the other subsocieties of actual entities at work within a human being at every moment. In turn, the mind or soul communicates “an inheritance of character,” a unifying pattern of operation or common element of form to the rest of the structured society, the human being as an organic body-soul/mind composite (Whitehead 1978, 109). This understanding of the mind-body relation by Whitehead seems to be quite compatible with the claim of Terrence Deacon, cited above, that downward causation is not due to the introduction by God of a soul, an immaterial principle of activity, within the organism as in itself a purely bodily reality, but by the emergence out of the normal workings of the bodily organism itself of a higher-order form or structure that constrains or sets boundaries to its continued existence and activity vis-à-vis other organisms and/or the external environment as a whole. In both cases, one is claiming the ontological priority of the Many over the One rather than the One over the Many. That is, one gives ontological priority to an understanding of the relation between the One and the Many that prizes the dynamic reality of a unity-in-diversity of interrelated parts or members

over the relatively static reality of a single higher-order entity presiding over an undifferentiated aggregate of lower-order entities.

In brief, then, the new paradigm for the relation between the One and Many proposed in this article, especially if worked out in greater detail in terms of Whitehead's understanding of structured societies and their component sub societies of actual entities, seems to provide a suitable philosophical explanation for the contention of natural scientists like Stuart Kauffman, Jesper Hoffmeyer, and most recently Terrence Deacon that, beginning with molecules at the prebiotic level of existence and activity, living organisms have a strictly internal principle of self-organization that fully accounts for their progressive growth in order and complexity. There is no need for theories of intelligent design or still other forms of divine intervention into the processes of nature to account for the move from non-life to life or, in Deacon's mind, from sentient life to rational life. This does not, of course, preclude the possibility of divine involvement in the cosmic process by more subtle means (e.g., as Whitehead proposes, through divine "initial aims" to actual entities at the beginning of their process of self-constitution [Whitehead 1978, 244]). But it does offer a serious challenge to classical metaphysicians in their espousal of the traditional understanding of the relation between the One and the Many in which the One exercises top-down causation over the Many as their immaterial principle of order and intelligibility.

Turning now to the applicability of this new more democratically organized paradigm for the relation between the One and the Many to controversial issues in theology, I note in the first place that in religion and science circles there is increasing appeal to the notion of panentheism, everything finite existing within God as Infinite Being but still exercising its own mode of existence and operation (Clayton and Peacocke 2004). Yet, as Neils Henrik Gregersen comments, "There may be as many panentheisms as there are ways of qualifying the world's being 'in' God" (Clayton and Peacocke 2004, 19). Here too, however, if one has recourse to the new paradigm for the relation between the One and the Many (i.e., the Many co-generating the One as a higher-order social reality, e.g., a natural environment or human community), there might be a way to defend the notion of panentheism without lapsing into some form of pantheism (the subordination of matter to spirit or of spirit to

matter). That is, if God and the world are conceived as together an all-encompassing Whiteheadian structured society (i.e., a society composed of two or more interrelated subsocieties, each of which operates in its own way as ontologically distinct from the other[s]), then God can be interpreted as the "regnant" subsociety within the structured society proper to the God-world relationship as a whole. Thus, like the soul or mind in a human being, God communicates a unifying pattern of operation or common element of form to all the finite subsocieties of actual entities that together constitute the world of creation. In turn, God as the regnant subsociety within the structured society proper to the God-world relationship as a whole receives "a peculiar richness of inheritance" of information from the world of creation (Whitehead 1978, 109). God and the world are dynamically interrelated as ongoing co-constituents of the Kingdom of God, the higher-order social reality of the God-world relationship, and yet are ontologically distinct from one another as its constituent parts or members.

But does this mean that the God-world relationship is a social reality even bigger than or greater than God alone as Creator of the world? The answer is yes, although with some careful qualifications. First of all, one must assume that the world originally came into existence and even now continues to exist within God's unbounded field of activity as Infinite Being. Secondly, by a primordial free decision on God's part, this divine field of activity proper to God's own being and operation has become the ontological ground or vital source for all the interrelated fields of activity proper to the world of creation. Unlike the mind or soul within a human being, therefore, God did not emerge out of all the interrelated processes proper to the world as the "body" of God. Rather the world as the "body" or contingent self-expression of God in space and time emerged out of the antecedent reality of God, in particular out of the divine field of activity proper to God's own independent existence and activity. In effect, then, God and the world of creation co-exist in an ongoing intersubjective "We" relation. God freely chooses to share the divine life with creatures and creatures (above all, human beings) are free to accept or reject that offer of divine life. As a result, neither God alone nor the world by itself as an independent cosmic process represents Ultimate Reality. Only God and the world together constitute Ultimate Reality in the fullest sense.

Whitehead's vision of the "consequent nature" of God in *Process and Reality* corresponds in some measure to this understanding of Ultimate Reality as an all-comprehensive socially organized reality since the divine consequent nature brings together moment by moment all the diverse events that have just taken place in the finite world into a harmonious unity (Whitehead 1978, 346). But a Trinitarian understanding of God such as Gunton proposes in *The One, the Three and the Many* as a model for the God-world relationship is more readily compatible with this understanding of panentheism as an all-encompassing social reality since the triune God as an ongoing community of three divine persons likewise serves as the ground of being for all created entities and their interrelated communities and/or environments. Finally, my own explanation of the notion of panentheism in terms of an all-encompassing Whiteheadian structured society of dynamically interrelated subsocieties and their constituent subjects of experience works best of all since it alone properly explains how the God-world relationship consists in an intersubjective We- relation between the three divine persons and all their creatures. For, if "the final real things of which the world is made up" are actual entities, momentary self-constituting subjects of experience that by their dynamic interrelation from moment to moment provide the governing structure and mode of operation of a hierarchically ordered set of subsocieties, then the notion of panentheism, everything existing in God and yet retaining its own finite identity, makes eminent good sense in a process-oriented Trinitarian context. At the same time, as a hypothesis grounded in a particular faith belief, this understanding of panentheism can be challenged by non-believers as certainly plausible but not simply for that reason true².

POSTSCRIPT

Since this article is appearing in an online journal entitled *Science, Religion and Culture*, perhaps a word about the applicability of my new paradigm for the relationship between the One and the Many to the overall topic of culture should be added. What, for example, is the metaphysical status of a culture? Is it a higher-order socially constituted reality that shapes the lives of the human beings that live within it, or is it simply the contingent byproduct of the way that a group of people de facto relate to one another? Or is it both at the same time, albeit in different ways? In terms of my proposed paradigm for the relation-

ship between the One and the Many, a culture is a higher-order socially constituted reality that exercises downward causation via its internal structure on the activity of the human beings that compose it. But it is also simultaneously the objective result or byproduct of the ongoing bottom-up causation of those same human beings in terms of their ever-changing relations to one another. In this way, the existence and shape of the culture is dependent upon the presence and activity of people who live and work within it, even though the people who live and work within the culture are here and now dependent upon it for consistency in their life together as a community. A culture normally lasts longer than the people who are its present constituents. But without people interacting with one another within it on a day-to-day basis, the culture will grow weaker and weaker and eventually be replaced by another culture that is more reflective of what is actually happening among the people involved. Finally, unlike an individual entity that one can empirically see, hear and touch, a culture is known only by way of logical inference from its tangible effects on the thinking and behavior of people involved in it. Hence, it is far more difficult to name and properly define than an individual entity.

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Endnotes

¹Here is where I modify Whitehead's scheme slightly. Where Whitehead simply says that the superject of an actual entity is its objectification in something physically prehensible (Whitehead 1978, 45), I claim that the superject of an actual entity is its pattern of self-constitution carried over into the self-constitution of future actual entities and of ultimately of the universe as an organic whole. There might in this way be an affinity between a Whiteheadian superject and a unidimensional vibrating "string" in quantum field theory. But that idea cannot be further developed in this article.

²For a more extended argument in defense of this Trinitarian, process-oriented understanding of panentheism, cf. Bracken 2014.