

VALUE AND CREATIVITY

Before one makes value-judgments about specific lines of research in science and particular applications of scientific research to technology, one should have some pre-understanding of what is meant generically by the term value. For example, is value ultimately based on broad consensus with respect to subjective desires and purposes or on something objective in the natural order to which appeal can be made in evaluating the merit of various value judgments? In this paper, I will briefly sketch out an ontology of value based on an evolutionary world view as opposed to a more classical understanding of value arising out of a God-given or some other relatively fixed plan or design for the way that the world at least should operate. My thesis will be that creativity is the origin of value and that the degree of creativity at work in individual cases is the basis for objective value-judgments.

This has some affinity with Stuart Kauffman's proposal in a recent book *Reinventing the Sacred* that creativity is the most appropriate symbol for reinventing (or, I would say, rediscovering) a sense of the sacred in modern life (Kauffman 2008, esp. 281-288). But whereas Kauffman seems to regard creativity as Ultimate Reality in its own right, I would side with Alfred North Whitehead in his book *Science and the Modern World* that God is "the principle of limitation" for the operation of creativity, given that creativity is so unpredictable in its ceaseless activity (Whitehead 1967, 179). Whitehead would agree with Kauffman that creativity is "the universal of universals characterizing ultimate matter of fact" (Whitehead 1978, 21; Kauffman 2008, 287-88). But, more precisely than Kauffman, Whitehead likewise makes clear that creativity is not in any sense an entity (e.g., nature as a whole for Kauffman [Kauffman 2008, 288]) but simply a principle of activity which is actual only in the entities which it enables to exist (Whitehead 1978, 31). It is, in other words, the hidden nature of things, their Aristotelian *physis*, which empowers them to be creative both in their own self-constitution and in their impact upon other entities. In this respect, creativity is the equivalent in an evolutionary world view of the concept of being in classical metaphysics, provided that one understands being as a verb or participle rather than as a noun. In both cases, a principle of activity

is what is primarily intended. Thomas Aquinas and Thomists to the present time, to be sure, understand being as a noun rather than as a verb or participle and then describe God as Being itself (*Ipsium Esse Subsistens* [Aquinas 1946 Part I, Q. 3, art. 4, resp.]). In my view, this is an unintentional confusion of what exists (entity) and that by which one exists (nature). Yet, since God is believed to be transcendent being and the source of created being, one does not readily notice an otherwise obvious distinction.

Ironically, this logical “mistake” allowed medieval theologians like Aquinas, influenced no doubt by the writings of Plotinus and other Neo-Platonists, to establish a graded hierarchy of entities, from God as pure actuality to prime matter as pure potentiality. This, in turn, allowed them to set up a relatively fixed hierarchy of values. That which has more being has more value. Value is based on actuality rather than potentiality. Potentiality is equivalently a disvalue until it achieves actuality in terms of the perfection of its nature or essence. Change thus constantly takes place in the natural world but only within predetermined limits. Individual entities come into existence, endure for a while, and then pass out of existence; but the basic structure of the world remains unchanged with the passage of time. Moreover, relationships between entities are contingent events, “accidents” with respect to the enduring substantial reality of those same entities. Only with respect to the doctrine of the Trinity in his *Summa Theologiae* did Aquinas concede that relationships between entities (the divine persons) are constitutive of their very being or existence (Aquinas 1951, Part I, Q. 29, art. 4 resp). But the doctrine of the Trinity in the *Summa* was never integrated with his overall understanding of the God-world relationship which remained governed by the Aristotelian categories of substance and accident.

When, however, being is conceived as a verb or participle and thus as a principle of activity equivalent to the modern-day understanding of creativity, then one’s world view is dramatically altered. Entities are graded and valued according to their potentiality, not their current actuality. God is no longer conceived simply as the Supreme Being or Pure Unchanging Actuality but rather as likewise the entity with the greatest potentiality

for further actualization. Note that I do not claim here that God is Pure Becoming or simply a principle of activity (akin to Kauffman's understanding of creativity). As Whitehead comments in his master work *Process and Reality*, Creativity as an ontological principle exists only in its instantiations, actual entities of one kind or another. So God must be an entity, yet an entity possessing much more creativity than any other entity. Furthermore, if, as I believe, God (*Ipsum Esse Subsistens*) possesses Creativity by nature or in its fullness and is not a "creature" of Creativity as Whitehead himself maintains (Whitehead 1978, 88), then it follows that finite entities possess a measure of creativity by participation in the divine nature or act of being. In proportion as finite entities possess varying degrees of creativity, they can be aligned into a new hierarchy of being, this time understood as a hierarchy based on potentiality rather than actuality. That is, beings have value in proportion to their inbuilt potentiality or capacity to adapt to their environment and further evolve. What is important and valuable, therefore, is not what an entity is at the present moment but what it can in due time become in virtue of the potentiality or creativity at its disposal. Yet at all levels of the hierarchy creativity works in the same way; that is, it enables a given entity in its current state to deal successfully with its environment and thereby in some modest way to change or evolve internally with respect to its nature or essence. One might see in this understanding of creativity a philosophical explanation of the principle of natural selection extended beyond the realm of biology into the fields of physics and chemistry.

Yet, precisely in this widespread use of creativity as a principle of change or evolution, still another qualification must be made, a reservation which Kauffman in his appreciation of creativity seems to have downplayed. As noted above, Whitehead claims in *Science and the Modern World* that creativity is morally neutral since in principle its effects can be destructive rather than productive, at least in the short-run (Whitehead 1967, 179). Only God at work in this world through the principle of creativity can be counted on to use its power consistently for productive, not destructive, purposes. All the finite entities of this world are capable of a destructive use of their inbuilt creativity, if only because they do not see the full consequences of their self-constituting "decisions"

at any given moment. They are blind or in some cases blind themselves to the harm that they can cause both to themselves and to other entities through an inappropriate use of the creativity entrusted to them by God. Here, to be sure, I am presupposing still another principle of Whitehead's metaphysical scheme, namely, that "the final real things of which the world is made up are actual entities" (Whitehead 1978, 18), momentary subjects of experience which make themselves to be what they are here and now by a self-constituting "decision." This is not to claim, of course, that such decisions are consciously made. Without a brain and a corresponding central nervous system, an entity cannot be conscious of itself and its environment. So, atoms, molecules and lower forms of life interact with their environment in a highly predictable, more or less mechanical way. Only members of higher-order animal species and, above all, human beings can make conscious decisions in virtue of their innate power of creativity. Yet here too, Whitehead would claim, the degree of consciousness in human and even more so in non-human decision-making is quite limited (Whitehead 1978, 106-09). That is, even human beings make most decisions intuitively or semi-consciously simply as an instinctive response to some event happening around them in the external environment and subsequently inside themselves by way of emotional reaction to that event which commands their attention.

Even when creativity is used to destructive purposes, however, it still has some limited value as an exercise of creativity, the actualization of an unrealized or previously unknown potentiality. Moreover, the assumption here has to be that in the long run something here and now quite destructive can, if properly dealt with, have an overall constructive effect on the cosmic process as a whole. This is still another way in which a value system based on the principle of creativity or potentiality is quite different from classical value systems based on a principle of actuality. The value of creativity, in other words, is grounded in aesthetics, not ethics. Not what is ethically good or bad as an actuality here and now is the ultimate criterion for what is valuable. Rather, the enduring value of an event is to be judged in terms of the way that it actualizes a hitherto untried potentiality. Thus even what is *prima facie* destructive in terms of its

consequences (e.g., a hurricane or earthquake in a heavily populated area of the world) can be awe-inspiring and aesthetically beautiful in its inevitable release of pent-up energy. At the same time, for human beings there exists a heavy moral responsibility for dealing effectively with the consequences of such a catastrophic event for themselves and other human beings. So, while the good is ontologically subordinate to the beautiful within this scheme, the need for moral goodness is not thereby diminished. This position only makes clear what classical Taoism has maintained for centuries. Judgments of good and evil on the part of human beings are important for the situation at hand, but in terms of the cosmic process as a whole they are inevitably perspectival. Unlike a Creator God, human beings can never make value judgments based on the overall workings of the cosmic process but only on their limited understanding of the consequences of that process for themselves and other human beings here and now. Action to deal with the situation is clearly needed, but this action too will have consequences that cannot be fully anticipated by the people involved.

From a practical point of view, this long-range approach to value judgments might be useful in resolving issues related to theodicy. Literally, theodicy means justification of God's ways of dealing with the world, above all, with human beings in their periodic trials and sufferings. In point of fact, however, theodicy ends up being a justification of our human understanding of God's wisdom and goodness with respect to creatures. As Harold Kushner points out in his classic work *When Bad Things Happen to Good People*, we human beings feel an urgent need to give a reason or find an underlying cause for everything that happens to us and around us. If something goes wrong, someone has to be blamed (Kushner 1981, 9-35). Our sense of good and bad, however, is inevitably perspectival, that is, related to ourselves or to the group to which we belong here and now. A willingness to allow the unexpected to happen and to appreciate the spontaneity which brought it into being even when its initial consequences present a serious challenge to the *status quo* is an attitude hard to sustain when our instinctive response to the event is strongly negative. But this may be the working ethic of a Creator God who by definition sees the long-term workings of the cosmic process

as well as its short-term consequences for particular individuals. God is more patient than we human beings are in dealing with natural selection or its equivalent not only in biology but also in the world of nature at large. Unexpected or spontaneous change is sometimes a pleasant experience, but more often it is painful to those directly involved. Yet without the ever-present possibility of this kind of change, the *status quo* would never vary and the cosmic process would be at a dead end.

Human value-judgments, therefore, need to be assessed not simply in terms of the immediate experience of value in the present moment but in terms of the long-term consequences of a present decision. But how does one calculate these consequences? Charles Sanders Peirce believed that the answer to this question was to be found in his philosophy of pragmatism or, as he later formulated it, pragmaticism. Patterns or habits (more exactly, the phenomenon of habit-taking) seem to be at work everywhere in Nature as well in the minds of human beings. Matter, as he sees it, is “effete mind” (Peirce 1935, VI, 158), that is, mind utterly lacking in spontaneity with “inveterate habits becoming physical laws” (Peirce 1935, VI, 25). Alfred North Whitehead offered an alternative explanation along the same lines with his notion of a “society” as an assemblage of actual entities (momentary self-constituting subjects of experience existing in space and time) with a “common element of form” (Whitehead 1978, 34), a more or less uniform pattern of self-constitution. So, out of the apparent randomness of the contingent “decisions” of individual self-constituting subjects of experience with at least some degree of independence from one another, a novel order or corporate sense of unity consistently emerges. Patterns of activity and behavior develop as a result of closely interrelated “decisions.” While this is true even of the ultimate components of inanimate things, it is much more obviously the case with higher-order animals, above all human beings, in their external activity and internal thought-processes.

Within human consciousness, of course, there is also more spontaneity or freedom with respect to past patterns of thought and behavior. Human beings can make new value-

judgments and thereby set up a new pattern of thinking and behavior which alters or abandons altogether an older pattern. But, whether more or less unconsciously repeated or consciously altered, patterns of thought and external activity resulting from value-decisions in the present moment tend to govern our thinking and behavior for the foreseeable future. For there is, after all, little or nothing to be gained from constantly changing one's mind. One must be consistent in one's thinking or behavior, and from the repetition of an original self-constituting decision in an ongoing series of such actual entities or momentary subjects of experience one can anticipate the long-term consequences of that decision and its significance for the future. The most important point, however, for the basic project of this paper, namely, analysis of the origin and significance of value, is that in Whitehead's view value is grounded in subjectivity, that is, in a momentary self-constituting decision of an actual entity, but attains objectivity through repetition of that same pattern of self-constitution in subsequent actual entities over space and time. Value is thus not imposed on the subject of experience by an outside source or influence, but is consciously or unconsciously chosen by the subject of experience and then repeated by its successors in the same "society."

Having indicated in a general way what I see as the linkage of value and creativity, in what follows I will now sketch a preliminary world view in which creativity as a value-creating ontological principle plays a key role. It will be largely based on the cosmology of Alfred North Whitehead in *Process and Reality* and other works. But it will significantly differ from Whitehead's own understanding of "society" as an assemblage of actual entities, momentary self-constituting subjects of experience, with a "common element of form" (Whitehead 1978, 34). For, in my judgment, Whitehead failed to indicate how a "society" with its "common element of form" can endure while its component actual entities succeed one another with such great rapidity. What is to guarantee that the society will not unexpectedly change form as a result of new constituents in the next moment of its existence? My argument with fellow Whiteheadians for many years now has been that a "society" is better understood as an environment or structured field of activity for its constituent actual entities. This environment or structured field of activity

does indeed evolve, change character, with the passage of time; but from moment to moment it offers an enduring law-like context for the emergence and self-constitution of successive sets of actual entities. Somewhat akin to the Aristotelian notion of “substance” (Aristotle 1941, *Metaphysics* 1028a), therefore, a Whiteheadian “society” is a principle of continuity in a world marked by ongoing change. But, unlike an Aristotelian substance, the “society” also changes in its basic structure or form in and through the interplay of its constituent actual entities, albeit at a much slower rate than those same constituent actual entities which come into and go out of existence so rapidly. To sum up, a “society” of actual entities and its constituent actual entities necessarily condition one another’s existence. A “society” would be an empty field of activity and thus meaningless without the rapid succession of constituent actual entities. Yet the actual entities at any given moment are heavily conditioned in their self-constitution by the already existing law-like context of the environment in which they arise. One might see here a possible philosophical explanation for the classic Buddhist belief that at every moment determinate form emerges out of and then passes back into indeterminate emptiness. Form and emptiness thus mutually condition one another’s reality.

Within this value-oriented world view, the entity with the greatest potentiality is also the Supreme Actuality, namely, God. God, after all, has the greatest capacity both to affect and be affected by everything else that exists. In this way, the potentiality within God is unsurpassed even though from moment to moment God is likewise the Supreme Actuality for that moment. Furthermore, the unity of God is not undifferentiated or “simple,” as in the philosophy of Thomas Aquinas (Aquinas 1946, Part 1, Q. 3, art. 7); but rather in keeping with the nature of God as creativity, the inner unity of God is dynamically differentiated. That is, in line with Christian belief, God is triune, a dynamic unity of three closely interrelated divine “persons” who are together one God. In Whiteheadian terms, God thus understood is a “structured society,” that is, a society composed of subsocieties of actual entities (Whitehead 1978, 99). Since each of the divine persons is what Whitehead calls a “personally ordered” society of divine actual entities (momentary subjects of experience) with an ongoing distinctive pattern of

existence and activity), their unity as one God is as a structured society with its own corporate “common element of form” or pattern of existence and activity. As Christian tradition has always maintained, each of the divine persons is God but in a different way. Only the dynamic fusion of these different ways of being the one God constitutes what is meant by the Godhead or the nature of God common to all three persons.

Furthermore, if one accepts my modification of Whiteheadian societies as structured fields of activity for their constituent actual entities, then each of the divine persons has its own field of activity which in principle is infinite or unlimited in scope. But, if all three of these interrelated fields of activity are thus unlimited or infinite, then their unity as a structured society can only be a single field of activity common to all three persons. Elsewhere I have referred to this all-embracing divine field of activity as the Divine Matrix or the ontological ground of existence and activity for all other entities in this world (Bracken, 1995). Within this divine matrix our universe presumably came into existence roughly 14 billion years ago. Through a free decision of the divine persons, there was a transfer of divine energy or creativity to one specific area within the all-encompassing divine field of activity. What happened next was what natural scientists conventionally call the Big Bang, an enormous explosion of energy in all directions. Yet, since creativity is the functional ontological principle whereby “the many become one and are increased by one” (Whitehead 1978, 21), after the initial explosion which produced an innumerable number of energy-units or “virtual particles,” a gradual process of unification of these transient particles or miniscule energy-units took place first into primitive longer lasting social unities (protons, neutrons, electrons) and then by degrees into even more complex social units (atoms and eventually molecules of varying size and complexity). Thus divine creativity as shared with finite entities gradually brought into existence higher-order “societies” corresponding to the inanimate and animate “things” of this world. Furthermore, these higher-order societies of actual entities, I would argue, emerged through a combination of what might be called bottom-up and top-down causality (Bracken, 2009, 138-153). That is, the constituent actual entities in each such higher-order society by their dynamic interrelation from moment to

moment represented bottom-up efficient causality. But the resultant “common element of form” for the society to which they belonged then exercised top-down or formal (or in today’s parlance informational) causality for the next set and all subsequent sets of interrelated actual entities for that society Bracken 2009, 159-163).

In its constitution, therefore, a Whiteheadian society exemplifies what might be called “emergentist monism” (Clayton 2004, 60-62). All its constituent parts or members are made of the same “stuff.” But the society is thus not simply reducible to the ongoing interaction of its constituent parts or members. It is a further physical reality which is necessarily co-existent with its constituent parts or members, and yet both more than and other than those same constituents. More specifically, it is the necessary environment or already structured field of activity for actual entities in their emergence and dynamic interrelation at any given moment. Understood in this way, a Whiteheadian society is a clear instance of strong vs weak non-reductive physicalism (Clayton 2009, 1-37). That is, as indicated above, within a society there is genuine top-down as well as bottom-up causality. As Whitehead makes clear in *Process and Reality* with reference to the mind-body relation within human beings, “the brain is coordinated so that a peculiar richness of inheritance is enjoyed now by this and now by that part ; and thus there is produced the presiding personality [dominant actual entity or momentary subject of experience] at that moment in the body. Owing to the delicate organization of the body, there is a returned influence, an inheritance of character derived from the presiding occasion [dominant actual entity] and modifying the subsequent occasions [less spontaneous actual entities] through the rest of the body” (Whitehead 1978, 109).

After reading the above citation from Whitehead, one might possibly conclude that he implicitly endorses a dualism of soul and body, spirit and matter. This, however, is not the case since every actual entity is both a self-constituting subject of experience, hence an immaterial reality, and a superject, its objective self-expression in the material world (Whitehead 1978, 45). Yet it is not two separate entities in close conjunction but one entity with both a spiritual and a material dimension (Whitehead 1978, 28). Thus

neither “spirit” nor “matter” can exist without the other. Together they constitute the full reality of every entity in this world (from atoms to the human mind and the social institutions which over time the human mind has created). At lower levels of existence and activity within Nature, the constraints of “matter” on the activity of “spirit” are considerable so that, as Peirce claims, matter is “effete mind,” utterly lacking in spontaneity (Peirce 1935, VI, 158). But at higher levels of existence and activity (e.g., human beings and their corporate institutions) the flexibility and spontaneity of “spirit” come more and more to the fore (Bracken 2009, 160-161). One might object, of course, that this position still represents a form of panpsychism, the belief that “it’s mind all the way down,” empirical evidence for which is lacking or at least quite ambiguous (Clayton 2004, 130). But this objection is based on the assumption that between monism and dualism there is no middle term or common ground. The doctrine of non-dualism (which is widely accepted in classical East Asian philosophies like Advaita Vedanta Hinduism, Buddhism and Taoism) counter-proposes that between contraries, as opposed to contradictories, there can and should exist a middle-ground position that mediates between them.

In any event, because a Whiteheadian “society” has its own ontological identity in distinction from the self-constitution of its individual constituent actual entities at any given moment, it has a value which is not only more than but likewise other than the fleeting value of an individual constituent actual entity in its momentary self-constitution. A “society” endures over time and thus has value precisely as something that endures and is not irrevocably lost in the next moment of the cosmic process. At the same time, its ontological value is basically self-generated, not imposed from the outside by some external standard of value emanating from God as the transcendent source of all value or from the contingent value-judgments of fallible human beings by way of consensus. A “society” has an objective value simply as a consequence of what it has become in and through its succession of constituent actual entities. Naturally, some “societies” have more value than others in terms of their structure and complexity as well as in view of the role which they play in the constitution of still other, much larger “societies.” A

unicellular organism like a virus, for example, has less value than the multi-cellular organism which it “decides” to invade. For that reason, the multi-cellular organism has a right to defend itself from the virus by expelling or otherwise eliminating it before it can do damage to its own internal constitution. But literally every “society” of actual entities has some value in virtue of the way that it first came into being, i.e. through a corporate “decision” of a set of dynamically interrelated self-constituting subjects of experience, and then continues to exist through repetition or modification of that “common element of form” in subsequent sets of constituent actual entities. Every society, accordingly, has a determinate character which makes it at least somewhat different from all its contemporaries and thus endows it with objective value in its own right.

At the same time, all this happens only in virtue of divine creativity which, following Whitehead on this point, is communicated to actual entities through “divine initial aims” with their impact on what Whitehead calls the “subjective aim” or sense of purpose for each concreting actual entity in its self-constitution (Whitehead 1978, 244). Whitehead himself, to be sure, limited the activity of these divine initial aims to simply providing a directionality to the actual entity in its process of self-constitution and nothing more. But, in my view, if Creativity is not an ontological reality apart from God but, as noted above, the dynamic nature of God as Creator of heaven and earth, then the divine initial aim not only provides a directionality to the concreting finite actual entity but empowers it to implement its own subjective aim and thus to become what it ultimately “decides” to be. So Creativity is decisively at work in the self-constitution of each actual entity even when a given actual entity “decides” not to follow the directionality proposed to it by God on a feeling-level. One could compare my own understanding of Whiteheadian divine initial aims to the classic Christian understanding of actual grace, that which both empowers and motivates human beings to choose good and avoid evil. The difference, of course, between the two concepts is that the concept of actual grace is limited to creatures which can exercise free will with respect to its acceptance or rejection, thus to human beings rather than to non-human creatures lacking this power of free choice. Following Whitehead on this point, I claim that divine initial aims are

given to all actual entities in their moment of self-constitution, even to the actual entities which are constituents of inanimate things. For all actual entities without exception have some limited power of self-constitution and thus in principle can reject or in any case modify the divine initial aim proper to themselves in their moment of self-constitution.

All this being said, the key point for my attempt in this paper to link value and creativity is that there is still room within this scheme for the classical understanding of God as the transcendent source and inward motivation for the achievement of value on a finite level. Value, in other words, is not totally self-generated by finite actual entities in their moment of self-constitution. Given the influence of God on the concurring actual entity through provision of an initial aim for that moment of “decision, God still plays a role in the achievement of value within the cosmic process. Furthermore, the finite value achieved by an actual entity and its successors in a given society can as a result be measured and further evaluated in terms of transcendent values which are resident in what Whitehead calls the “primordial nature” of God, God’s vision of ordered possibilities for both our own and any other finite universe (Whitehead 1978, 343). Yet, as Whitehead notes in that same context, God is thereby “not *before* all creation, but *with* all creation” (Whitehead 1978, 343). For the de facto achievement of value by finite actual entities at any given moment God is dependent on the contingent “decisions” of creatures. Human beings, of course, with their greater power of free self-constitution are both personally and corporately much more responsible for the achievement of value in this world than non-human “societies” of actual entities. So God especially needs the cooperation of human beings for achievement of divinely intended goals and values for the cosmic process.

At the same time, in and through what Whitehead calls the “divine consequent nature” all these contingent decisions of finite actual entities are continually ordered and reordered by God into a comprehensive whole, thus preventing total chaos from regularly taking place in the universe and making possible new divine initial aims and

new self-constituting “decisions” of finite actual entities in the future (Whitehead 1978, 350-351). In my own Trinitarian scheme for the God-world relationship, the consequent nature of God basically corresponds to the above-mentioned divine matrix, the all-embracing field of activity proper to the divine persons in their ongoing dynamic interrelation, insofar as it is likewise the field of activity or environment for the world of creation and the evolutionary process. Within this divine matrix as the ultimate source or ontological ground for the power of creativity at work in the world, the evolutionary process produces from moment to moment all the finite actual entities and the “societies” which they bring into existence through their dynamic interrelation. The divine persons and all their creatures are thus together bringing about what the Christian Bible refers to as the “Kingdom of God.” The Kingdom of God is, accordingly, not the work of God alone nor simply the achievement of the finite entities of this world. It is a genuinely cooperative venture between God and finite entities at every moment. Yet, contrary to conventional wisdom which suggests that man proposes and God disposes, this is a situation where God proposes and finite actual entities by their self-constitution here and now dispose or “decide.” The result is a world in which values are often quite ambiguous, a mixture in most cases of both positive and negative components. But the end result, as indicated earlier in this paper, is presumably in the eyes of the triune God an aesthetic if not always a moral achievement. Something eminently worthwhile is being worked out through the cosmic process even if we human beings with our strictly limited goals and values often find it hard to realize and properly appreciate. Our human world and indeed the entire universe is still a work in progress.

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