

RELATIONAL CREATIVITY AND THE SYMMETRY OF FREEDOM AND NATURE

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ABSTRACT: One of the more important and persistent of problems in speculative philosophy is reconciling the relation between freedom and nature. This is often referred to as the problem of freedom and determinism, but this way of formulating the problem assumes, uncritically, that nature is and must necessarily be a purely deterministic framework. As I hope to show, the so-called problem of freedom and determinism lies precisely in this deterministic assumption. By reorienting the question in terms of the relation between freedom and nature, rather than freedom and determinism, we can better see how the problem of their tension or ‘contradiction’ only arises if nature itself is defined and characterized in a very limited, purely deterministic way. Once we step outside the deterministic assumption and entertain alternative views of nature, the problem of freedom and determinism does not arise.

KEYWORDS: Freedom; Determinism; Nature; Cosmology; Kant; Whitehead

INTRODUCTION

Speculative Philosophy is constantly faced with the problem of reconciling elements of experience that appear to stand in a problematic, perhaps even contradictory relation to each another. One of the more important and persistent of these problems is the relation between freedom and nature. Expressed in Kantian terms, the problem is reconciling the *unconditional, creative* character of freedom with the *conditional, determinate* character of the natural world. This is often referred to as the problem of freedom and determinism, but this way of formulating the problem assumes, uncritically, that nature is and must necessarily be a purely deterministic framework. As I hope to show, the so-called problem of freedom and determinism lies precisely in this *deterministic assumption*, an assumption which is so deep-seated and uncritically accepted that it is often treated as if it were a self-evident truth. By reorienting the question in terms of the relation between freedom and nature, rather than freedom and determinism, we can better see how the problem of their tension or ‘contradiction’ only arises if nature itself is defined and characterized in a very limited, *purely* deterministic way. This was part of Kant’s problem and it remains the primary source of the many debates that have raged around the relation between the ideas of freedom and nature. Once we step outside the deterministic assumption and are willing to entertain alternative views of nature, the problem of freedom and determinism does not arise.

I begin by outlining the problem of freedom and nature expressed as a demand for symmetry in the philosophy of nature. I follow with a discussion of creative freedom, contrasting it with what I refer to as other conditional forms of freedom. I then give a brief history of the idea of creative freedom, with particular emphasis on Kant's treatment of the problem of freedom and nature. Finally, drawing upon the work of Whitehead, I outline my own response to the problem, outlining the basis for a new philosophy of nature grounded in the metaphysics of relational creativity.

THE UNCONDITIONED AND CONDITIONED

The intelligibility of the natural world rests upon the belief/assumption that most or all of the conditions within nature stand in conditional relations to other known or knowable conditions. Individual instances within nature can then be explained by reference to their conditional relations to other elements in the system. This is another way of saying, following Kant, that everything in nature is *conditioned*. Difficulties arise when you introduce an element into the overall scheme that is by definition *unconditioned*, e.g., self-determination or self-origination in a strong, *creative* sense of those terms. The principle of *creative freedom* is a prime example of something that appears to be unconditioned in this sense. If creative freedom is unconditioned, then it would seem that instances of creative freedom cannot be explained by way of other known conditions. Following the *deterministic assumption* that all things in nature stand in a purely determinate (or predetermining) relation to other conditions, talk about creative freedom seems to introduce an irrational element into the world that defies explanation (in terms of the conditional framework of nature as a whole). Not only that, but because it is unconditioned, creative freedom is often said to be unintelligible (e.g., Mackie 1955; Dennett 1990). For when we ask where it comes from, where it stands in relation to other things, or what its ground is, we are often left with claims and questions that have a certain air of paradox about them (analogous to the question of where God came from or what caused God, etc.). The difficulty for speculative philosophy lies in providing a systematic account of these apparently contradictory claims in a way that affirms the integrity of both, preserving both the intelligibility of nature and a strong sense of creative freedom.

SYMMETRY AND NATURE

Philosophy is often driven by deep seated principles and assumptions about the way the world can or cannot be. These assumptions play a crucial role in shaping the nature of the problems that philosophers address. One such assumption is what van Fraassen critically refers to as the 'symmetry instinct,' or the "thirst for hidden variables"; i.e., the quest or drive to find intelligible patterns throughout experience. The conviction underlying the 'symmetry instinct' is that "an asymmetry must always come from an asymmetry" (van Fraassen 1989, 239f). That is, any asymmetries in a system must

themselves be conditioned by antecedent asymmetries, etc. (as a variation on the rationalist principle that something can't come from nothing). Thus, there should be nothing in the system as a whole that is not explicable in terms of the overall pattern of the system.

Etymologically, the word 'symmetry' comes from the Greek *symmetria* or of "the same measure" (Hargittai 1994, p. XII, Preface). It is closely related to the idea of *reason* understood as *ratio* or right proportion. The very possibility of a philosophy or science of nature presupposes that symmetrical relations underlie various regions of possible investigation, that is, that various elements within nature share "the same measure."¹

Applied to our present discussion, the problem of freedom and nature is the addition of an apparent asymmetry into the system of natural, conditional relations that constitute the world. The problem lies in bringing the unconditional character of creative freedom within the system of conditional relations that constitute nature in general. The radical asymmetry inherent in the idea of creative freedom seems to introduce a principle of spontaneity that generates a major inconsistency in the system of purely deterministic natural relations.

UNCONDITIONED OR *CREATIVE* FREEDOM

Unconditioned or creative freedom is a kind of 'metaphysical' freedom. It is importantly distinct from the 'personal' or *conditional* freedoms such as 'political freedom,' 'economic freedom,' 'freedom of speech,' 'freedom of conscience,' 'liberty,' etc. Conditional freedom is the mere *freedom from constraints*. Such constraints may be internal or external, positive or negative depending on the context or the nature of the examples employed, but in all cases the defining feature of such freedom is the extent to which those constraining forces are present or absent.² Thus the defining feature of conditional freedom is the *absence of constraints*.³

Unlike personal freedom, *creative* freedom has little to do with the presence or absence of constraints. Creative freedom includes the various principles of self-origination, self-determination, self-construction, or self-integration. It is often

¹ The most common idea of symmetry is bilateral or reflective symmetry (as expressed in the 'mirror image' or the proposition $A = A$). A similar exactness is exhibited in geometric symmetry (the type of symmetry usually associated with crystals) where there are well-defined limits that do not allow for the possibility of degrees of symmetry. Part of the cost of achieving this exactness, however, appears to be 'the absence of life.' But not all symmetries need be of this extremely exacting nature. The symmetry usually associated with living things (such things as the structures of molecules or the pattern of veins running through a leaf) is known as material symmetry. The shared measure underlying material symmetries allows for degrees of difference between instances. The symmetry discussed here will be something akin to material symmetry (for a more detailed discussion of the various kinds of symmetry, see Hargittai, 1994).

² Examples of such constraints are provided by Feinberg (1973, Ch. 1). For instance a desire may be termed a positive internal constraint, while a deficiency of ability may be a negative internal constraint, each in its own way impeding the satisfaction of a genuine interest.

³ This does not mean that the mere presence of constraints implies a state of unfreedom. Someone who claimed to be unfree because they could not change the time and place at which they were born would not be unfree in the conditional sense of the term.

associated with more traditional notions such as ‘freedom of the will,’ ‘spiritual freedom,’ ‘existential freedom,’ or ‘creativity.’ In its most basic form creative freedom affirms some positive ‘power’/‘activity’ that directs and/or unifies the conditions in question. As an ‘unconditioned’ activity or power, creative freedom is never reducible to antecedent, purely deterministic conditions. Creative freedom thus refers to/is defined as a metaphysical or transcendental ‘power’ or ‘activity.’ As a cause/ground of action, it appears to be identical or fully coincident with (and perhaps even indistinguishable from) an action or unified condition, making it appear (particularly when viewed from the deterministic assumption) as a kind of active substance or efficacious spontaneity.⁴

THE PROBLEM OF FREEDOM AND NATURE

Philosophical efforts to understand the general nature of things are often driven by the instinct for symmetry (a ‘drive’ that is perhaps best understood as having a rational-aesthetic character). As already noted, however, when applying this instinct for symmetry we often proceed on the *deterministic assumption* that all relations in nature are purely deterministic, that is, that all conditions found within nature can be reducible to (e.g., are caused by) other known or knowable external or antecedent, efficient conditions. Problems arise when we try to incorporate an account of creative freedom into a purely deterministic philosophical system. For the moment we do so, we then introduce an unconditional (and hence apparently unintelligible) element into the otherwise conditional field of nature. The result is an asymmetry within nature that violates our instinct for symmetry.

The difficulty for speculative philosophy lies in trying to provide a rational, coherent account of this new, asymmetrical feature in terms that make sense within the rational-aesthetic ideal of the symmetry of the whole. This problem is of particular importance to speculative philosophy (at least as it has been traditionally understood and practised) insofar as its principal task to make sense of the ‘whole’ by offering a *systematic*, i.e., coherent, consistent, experientially adequate and applicable account of the relations between the whole and its parts. To make philosophical sense of the whole is to arrange the sum of its parts in a system of relations that possesses symmetry (one that preserves the intelligibility of the parts and their various relations). The problem of freedom and nature thus becomes the problem of marrying the unconditioned to the conditioned, that is, of *conditioning the unconditioned*.

⁴ Many philosophers try to bring the general notion of metaphysical freedom into question by explaining it away either as the product of a naturalistic need, a transcendental illusion, or some kind of confusion. Despite the many suggested treatments that have been proposed to help ‘cure’ us of the problem of creative freedom, however, it simply will not go away. The persistent efforts of those who would explain it away is an acknowledgment of this fact. Thus the sheer persistence of the idea of creative freedom, *as a problem* (particularly when viewed against the deterministic assumption) would seem to be reason enough to take it seriously and to try to deal with it in a more positive manner than is sometimes fashionable.

A BRIEF HISTORY OF THE PROBLEM

The idea of creative freedom has a long history within the Western tradition (Rose 1997). We see it, for example, in Aristotle's account of formal cause as a self-developing or self-actualizing activity, and in his metaphysical account of the unmoved mover.⁵ We can also clearly see it in Epicurus' idea of the 'swerve' as a spontaneous turn away from pre-determined conditions. But we see it expressed most dramatically within the metaphysical theology of the medieval world. With the advent of the medieval period and the powerful religious/moral belief in the idea of a creator God (i.e., a God who created the world *ex nihilo* or out of nothing), the idea of creative freedom begins to take centre stage in the history of philosophy (Gilson 1991, 64f). Of central concern during this period is the development of a thorough understanding of humanity's relation to God, a God who is creatively free in the most radical, metaphysical sense of the term.

The overall symmetry of the medieval world view is maintained by referring all things to God as their philosophical or intelligible ground. The creative freedom of human beings (e.g., free will) is thereby explained as the mirror or created image of God's own creative power (which, as infinite and original, is said to be self-grounding, i.e., possessing "its sole sufficient reason") (Gilson 1991, 59f). The medieval system begins to break down in the attempt to make the relation between God and the world intelligible (e.g., the relation between human free will and God's foreknowledge). We can see this in the countless debates over freedom of the will (in the face of God's omniscience), the character of God (e.g., whether God's power is *ordinato* or *providentio*), etc. In the end, the strong principle of asymmetry introduced by the idea of a creator God, as a self-grounding principle for the intelligibility of other creative asymmetries (e.g., free will) is defended and maintained dogmatically as a matter of *faith* rather than reason.

THE MODERN SYNTHESIS

With the advent of the Renaissance and the newly developed mechanistic view of nature (as a cosmological expression of the deterministic assumption), the problem of marrying the strong asymmetrical principle of creative freedom (as a distinguishing feature of human being) with our instinct for symmetry becomes acute. By replacing the Aristotelian, organic view of nature with a purely mechanistic world view (dominated by a reduction to efficient causes), the problem of the relation between creative freedom and nature is exaggerated. The heightened contrast created by the newly adopted idea of nature as a purely mechanistic framework of material, efficient relations and the idea of creative freedom tends to present human creative freedom (e.g., freedom of the will) as a radically unconditioned, naturally *anomalous* (e.g., supernatural) capacity/power. It is with the rise of modern philosophy then, and the

⁵ While Aristotle's theory has a certain intuitive appeal when applied to organic systems, it becomes somewhat strained (at least from our modern, 'scientific' perspective) when applied to the inorganic or non-living world.

deterministic assumption that underlies its dominant mechanistic view of nature, that the relation between freedom and nature becomes strained to the point of metaphysical unintelligibility.

KANT

Kant's radically subjectivist approach to the newly reformulated modern problem of freedom and nature marks a significant turn in the speculative effort to formulate and understand their relation. His 'Copernican revolution' is an explicit attempt to develop a systematic account of the intelligibility of nature (thus satisfying the demands of both the deterministic assumption and the instinct for symmetry) along with a defence of creative freedom. Kant achieves this by reversing the traditional relationship of mind and nature. Through an analysis of the conditions of the possibility of experience in general he concludes that the orderliness of nature (in particular its causal necessity) is not a character of the natural world in-itself, but the result of constitutive a priori principles of mind. Rather than view mind as conforming to nature, Kant claims that it is nature that conforms to the ordering framework, mechanisms and functions of the rational subject (Kant 1996, 21).

By reinterpreting the relationship between mind and sensible experience in this subjectivist manner, Kant is able to set limits upon the ability of *theoretical reason* to extend knowledge beyond the realm of sensible (i.e., possible) experience. He opens up a 'place' or domain of relevance for *practical reason* (as the ground of moral action) that is not subject to the demands of theoretical reason (and so not subject to the constraints of the natural, sensible world) (Kant 1996, 27). Freedom itself, as a creative, unconditioned power of *self-determination*, is said to possess a domain of relevance all its own that is importantly distinct from nature and so does not undermine nature's purely deterministic intelligibility. By approaching the problem in this way, Kant avoids the difficulties inherent in trying to incorporate the asymmetrical principle of freedom within the conditional framework of nature (viewed under the deterministic assumption). He side-steps the problem by relegating each to distinct domains as a transcendental function of our nature as embodied rational beings.

Because the ground of creative freedom extends beyond the spatio-temporal conditions of sensible experience into a suprasensible domain, creative freedom becomes the *unconditioned* ground of moral action (making it appear from the point of view of theoretical reason, as a spontaneity within nature). Viewed as a cause, creative freedom is thus coincident with a rationally willed action; it is both *where* and *when* the effect is. Defined as unconditioned, creative freedom ends up being viewed as a suprasensible, *unnatural* (i.e., supernatural) power of self-determination that lies outside the sphere of sensible experience and the conditioned, *natural* world of space and time (Kant 1996, 452).

Kant's subjectivist response to the problem of freedom and nature proceeds by transferring the problem from a metaphysical to an epistemological/transcendental

plane. He locates the source of the problem within the subjective conditions of human reason rather than the ontological realm of being per se. As a function of subjectivity, the problem is then redefined as a by-product of wrongly conflating the otherwise distinct, heterogeneous activities or domains of theoretical and practical reason (Kant 1987, 14). While the sphere of conditioned relations associated with nature is relegated to the domain of theoretical reason, the unconditioned power of creative freedom is relegated to the suprasensible sphere of practical reason and the moral activity of the human will.

While Kant succeeds in bringing freedom and nature together under the unified conditions of subjective experience, the unity achieved is tenuous at best. The radical distinction between speculative and practical reason that results places a great strain upon the relationship between freedom and nature. For while the possibility of our freedom may be affirmed as a transcendental necessity for moral action, this very same creative freedom can never itself be part of our *experience* (which is limited to the conditional realm of sensible nature) (Kant, 1996, 535). And while it is possible to develop a science of nature within this Kantian framework, the system of nature that results is virtually devoid of intrinsic value/inherent moral worth.⁶ The inherent tension between freedom and nature still exists here, but now it exists within the framework of the embodied subject rather than the world as such. Kant does not truly resolve the problem; he merely disguises it by transferring it from an objective to an epistemological domain.

Kant's attempt to bring freedom and nature together under the unifying principle of subjectivity is a brilliant response to the problem as he understands it. But the very form of his solution as well as many of the difficulties associated with it are a direct consequence of way the problem itself is formulated (including the initial, deterministic assumptions upon which it is based). For Kant's subjectivist solution is a direct response to the modern, mechanistic (i.e., pre-deterministic) view of nature that he accepts as true (combined with the Cartesian emphasis upon subjectivity as the primary ground of knowing). Kant's entire critical philosophy is, in many ways, a defence of creative freedom. But the cosmological scheme against which he works is so heavily grounded in the deterministic assumption that it leaves no room for creative freedom in nature. His attempt to make room for creative freedom by grounding it in a suprasensible, noumenal realm that is also causally efficacious in the sensible world seems to violate our instinct for symmetry (as relates to the idea of causality in nature) and strain the limits of philosophical intelligibility. As a direct response it is philosophically brilliant, but indirectly it has probably done more to exacerbate the problem.

⁶ Because Kant only extends creative freedom to human agents, he ends up with a world of limited moral worth, one that is, arguably, incompatible with a more comprehensive, i.e., *environmental*, ethic. Since creative freedom, as the ground of moral worth, is relegated to the suprasensible sphere, it ends up leaving us with a world completely devoid of intrinsic moral value. And since the only moral good is the good will (as realized in the exercise of our freedom through a rational accordance with the moral law), then the highest expression of our humanity ends up having little or nothing to do with our place in the natural world.

THE PROBLEM AFTER KANT

The attempt to reorient the problem of freedom and nature by focussing on their *difference*, as subjective domains of interest, has actually helped set in motion the threatened dissolution of systematic, speculative philosophy and the fragmentation into difference that is so characteristic of philosophy after Kant (e.g., postmodernism). In the end, the separation of freedom and nature becomes so great that talk about freedom and talk about nature end up being carried on in radically separate contexts. This has the rather unfortunate effect of further dividing freedom from nature, theory from praxis, morality from experience, fracturing human experience into fragmented, heterogeneous domains. In the context of a growing enthusiasm for science (and the theoretical investigation of phenomenal experience in general), it became easier to declare only the purely deterministic realm of nature to be real in any objective sense. Talk about creative freedom is labelled as *merely* subjective, the self-delusory habits of reason or language or emotion (or some other variant on that theme). And while there were attempts to resolve this Kantian fragmentation in a systematic way (e.g., Hegel's and Schelling's attempts to incorporate the idea of difference into the identity of the whole), in the end it is difference that won the day (at least for now) and the systematic, speculative approach to the problem was largely abandoned. This general failure to reconcile the relation between freedom and nature, now understood as their radical *difference*, thus marked the beginning of the decline of metaphysics and of speculative philosophy in general. Husserl's fears of the "inner dissolution" of the ideal of a universal philosophy are in danger of being finally fulfilled when the very enterprise of philosophy, as traditionally understood, is itself brought into question (Husserl, 1986, 11f; Rorty, 1983; Lyotard, 1993).

Fortunately, however, this is not the end of the story. For there were some who resisted (and continue to resist) the attack against speculative philosophy and the problem of freedom and nature (e.g., Peirce, Bergson, Heidegger, etc.). Prominent among these is Alfred North Whitehead. His system of speculative philosophy suggests a novel approach both to speculative philosophy and to the problem of freedom and nature in particular (though here we primarily concerned with the latter). As I hope to show (drawing upon Whitehead in particular), the key to resolving the problem lies in developing a philosophically 'significant,' theoretically and morally rich vision of nature that is grounded in what I am calling the metaphysics of *relational creativity*.⁷

WHITEHEAD: CONDITIONING THE UNCONDITIONED

The key to understanding Whitehead's philosophy is his metaphysical principle of *creativity*. By grounding his system upon the principle of creativity, Whitehead is able to locate creative freedom *within* the world as a fundamental feature of the relational

⁷ For more on the nature of and need for philosophical 'significance,' see my forthcoming paper on "Philosophy as Myth: The Need for 'Significance' and the Defence of System."

framework of existence in general. This allows us to preserve both the self-determining, self-constituting promise of creative freedom *and* the intelligible sphere of conditional nature within a metaphysical system that satisfies our instinct for symmetry. In a phrase, Whitehead proceeds by *conditioning the unconditioned*.

Whitehead defines creativity as the “Category of the Ultimate,” the first and highest among his metaphysical categories. Creativity is the original or ultimate principle in terms of which all other principles (e.g., the principles of ‘existence,’ ‘explanation,’ and ‘obligation’) are to be understood. While creativity is metaphysically universal (functioning as a ‘creative substance’), it is also purely immanent in that it has no existence apart from its particular instantiations (Whitehead 1978, 31). This means that the conditions for the possibility of nature are contained entirely within the natural order, here viewed as a *creative* order. While creativity is nothing apart from its particular instantiations, those particular instantiations give rise to a self-transcending process of *creative advance*, i.e., an asymmetrical press towards the future that is never reducible to the past. The process of creative advance follows generally from the serial, self-forming, self-constructing character of the relations that obtain within the pluralistic field of ‘occasions’ constitutive of existence in general.

Whitehead’s principle of creativity is instantiated as a pluralistic series of ‘actual entities’ or ‘actual occasions.’ Actual occasions are the metaphysically fundamental constituents to which all other modes of being must stand in a derivative, emergent relation (Whitehead 1978, 21). Actual occasions thus stand as the metaphysical building blocks of reality. They are defined in functional terms (Bradley 2003). The functioning of actual occasions within Whitehead’s system is quite complex, including such controversial elements as ‘feeling,’ ‘subjective aim,’ the ‘prehension’ of ‘eternal objects,’ etc. For our purposes, however, we can avoid these other, potentially problematic notions and focus instead upon what I take to be the key element in Whitehead’s theory of actual occasions, namely, their dual character as entities that: 1) are conditioned by antecedent causes on the one hand, and 2) that also take up or inherit those determining, antecedent conditions through a process of self-formation or self-construction on the other. Drawing solely upon this dual aspect of Whitehead’s actual occasions (thereby excluding all references to ‘feeling,’ ‘God,’ ‘eternal objects,’ etc.), we can pare down Whitehead’s original notion of actual occasions, redefining the ultimate building blocks of reality as *self-integrating* structures, or individuals that come into being through the serial advance of genetically inherited conditions. These fundamental building blocks, so defined, form the basis for what I am here calling the metaphysics of *relational creativity*.

Expressed somewhat simply, as a system of relational creativity, the ultimate building blocks of nature will be a continuous ‘stream’ of creative activity that manifests itself as a serial process of discrete, *self-integrating* structures constructing themselves from genetically inherited, determining conditions (e.g., inherited ‘material,’ ‘form,’ ‘patterns,’ ‘laws,’ etc.). This stream will be comprised of both *self-integrating* and *self-*

integrated structures, or individuals (i.e., individuated structures or ‘cells’ that themselves comprise the stream; some completely integrated, some still in the process of becoming fully integrated). These structures or ‘cells’ will be self-integrating in two senses: 1) functionally constructing themselves into a unity or whole (i.e., a discrete, individuated, unified structure or cell), and 2) functionally entering into and becoming part of a larger whole (e.g., as a member of a complex individual, organism, ‘society,’ ‘community,’ ‘region,’ or nature as a whole).⁸ Defined as functional members of an iterative series or cellular stream, once a self-integrating structure becomes fully integrated (in both senses of that term), another self-integrating structure will immediately follow, repeating the process and thus continuing the stream. This serial process of self-integration (i.e., the dual process of self-construction and self-completion) repeats itself indefinitely, giving rise to a continuous stream of individuated, self-individuating creative activity. These self-integrating structures, while continuing the patterns they inherit (through the process of iteration), are also unique individuals. For the novel unity brought into being through the individuating activity of self-integration is never reducible (exhaustively) to the antecedent, determining conditions that the individual inherits.

Within this metaphysical scheme, nature emerges as an immanently creative series of self-integrating individuals standing in antecedent and successive relations of genetic inheritance. It is comprised of a plurality of self-integrating and self-integrated structures standing in continuous, yet serially distinct relations (like an iterative series). A self-integrating individual is thereby what it is both by way of the conditioned patterns it inherits and the self-constructing activity that reiterates inherited conditions as an integrated individual (Whitehead 1947, 102). The same thing can thus be viewed either as an integrated individual or as an individuating process of self-integration (depending upon one’s perspective).

Metaphysically, the image of nature developed here is entirely self-grounding, for the principle of creativity to which existence refers (as its explanatory ground) is exhaustively present within the conditional field of nature as such (i.e., creativity is immanent). But even though the system is self-grounding, it is also dynamic and open-ended rather than static or closed, for the serial nature of the genetic relations also gives rise to the creative advance of nature. This creative advance manifests itself in two distinct ways: 1) internally, as an *individuating* process of self-integration, and 2) externally, as an *efficient* causal process whereby *individuated*, self-integrating structures determine or condition the self-integrating activity of successive individuals or structures (Whitehead 1978, 23). Taken broadly, neither the internal nor the external process has precedence over the other. Instead, both processes are mutually supporting,

⁸ As one reviewer of this paper rightly noted, Whitehead’s own account of how self-integrating entities become part of a larger whole is generally regarded to be problematic (e.g., A.H. Johnson, 1963. *Whitehead and his Philosophy*, Lanham: University Press of America, p.53). The main problem involves moving from the novelty of actual occasions to the novelty of the whole (e.g., a ‘society’). For more on how later process philosophers have tried to deal with this problem, see Greg J. Moses, “Big Things From Little Things? The Problem of the Compound Individual.” *Conrescence*, Vol. 4, 2003. <http://farleighcom.ozstaging.com/ajpt_papers/vol04/04_moses.doc>.

the one only being possible alongside the other. Thus the internal process of self-construction and the external process of efficient causation are defined here as relational notions, i.e., internal self-construction is only possible in relation to external efficient causation and efficient causation is only possible in relation to internal self-construction. Both processes stand as distinguishable, yet internally related elements within the creative advance of nature. In either case, the creative activity is itself *continuous*, for the moment that a self-integrating entity becomes fully integrated or constructed is identical or fully coincident with the beginning of the next self-integrating individual in the 'iterative' series. It is analogous to what Whitehead calls a cell-theory of existence whereby the end of one 'cell' in a series also marks the beginning of the next.

This process of creative advance incorporates an element of self-transcendence within nature, i.e., of always going beyond the conditions inherited from the past towards an open-ended, yet determined future. Thus creativity is both immanent and transcendent insofar as the conditions that constitute nature at any given moment also contain the conditions for the possibility of novel forms of expression (thereby allowing for the evolution of novel forms). It is in this general sense that nature is to be understood as both deterministically conditioned and immanently creative.

LAW AND THE CONTINUITY OF NATURE

Within this framework, the laws of nature stand as regularly inherited conditions that extend over large 'societies' of self-integrating structures that themselves display a shared integral order (Whitehead 1978, 90). Causal laws are defined as persisting patterns of order arising out of the complex, conditional relations that constitute some society (or societies) of self-integrating individuals. While every individual in a society will be shaped by the generalized law that obtains for that society, every such occasion will also play its role in maintaining and modifying the generalized law that it inherits (Whitehead 1933, 142f).

Laws of nature only exist as long as the societies from which they emerge continue to maintain a minimum cohesiveness of pattern. Once such societies begin to break down and lose their integral unity, then the laws associated with those societies also break down (Whitehead 1978, 91). Insofar as the laws of nature stand, however, as real, emergent features of the self-integrating individuals over which they extend, then such laws will have an explanatory rather than merely descriptive status (Whitehead 1933, 147f).

As unique or novel addition to their antecedents, the relations between self-integrating structures gives rise both to *continuity* within nature, as well as *difference* (Whitehead 1968, 94f). Depending upon the particular context, each of these aspects is as important as the other (Whitehead 1968, 107).

THE PROMISE OF FREEDOM

The metaphysics of relational creativity outlined here is not panpsychist. The creative character of self-individuating structures does not entail the existence or presence of consciousness or mind. Consciousness or mind will have emerged or developed from nature as a contingent fact, just as it is within most naturalistic theories. The metaphysical schema also retains the important practical (and intuitively compelling) distinction between living and non-living things. Thus, within the inanimate world, structural continuity and conformity to law will be the rule. Within living things, on the other hand, novelty and difference are brought to the fore. For much of the universe, the rule of law will be the general rule. Only in living things do we find any strong evidence of such purposive change, a stronger emphasis upon novelty amidst conformity, and upon difference amidst continuity. Hence, while creativity is present throughout nature as a whole, it is only in living things that we find the more complex expression of creativity referred to here as creative freedom.

It follows of course that, in the universe at large, there is nothing anomalous about the development of complex forms of creative freedom. Creative freedom expressed as the unconditional power of self-determination (as outlined by Kant) is as *natural* here as the conditional character of efficient law. The difference between instances of creativity in the world (as expression of the power of self-integration) will be one of degree rather than kind (Whitehead 1978, 102). Therefore, creative freedom is never in conflict with nature as some anomalous affront to the conditioned character or symmetry of nature. Instead, creative freedom is a reflection of the plasticity inherent within nature as such. As a genetic process of serial, conditional self-integration, nature is both determining and self-determining, conditioned and creative.

CONCLUSION

The metaphysics of relational creativity outlined here serves as an ideal starting point for developing a new (comprehensive, morally, aesthetically and epistemically rich) philosophy of nature. Such a system affirms both the intelligibility of nature (and the promise of knowledge) and the reality of creative freedom (and the promise of morality). It affirms the conditional character of nature as an intelligible system of relations, while at the same time locating the principle of creative freedom within those natural, conditional relations. There are no significant barriers between subject and object here, between knower and known (Whitehead 1968, 165). Instead, all the objective features of the world at large are capable of being known and/or made intelligible (at least in principle), including the very principle of creativity itself (Bradley 1994). In fact, the only form of knowledge that we are denied is what Putnam calls a God's eye point of view (Putnam 1987, 49f). While the finite is clearly within our grasp, the infinity of creative advance transcends the finitude of all actualized and actualizing points of view (Whitehead 1968, 42). Further, since we have no need to neutralize the

deterministic effects of a mechanistic, pre-deterministic natural world upon the possibility of our freedom, then we can avoid the radical subjectivist turn taken by Kant. We no longer need to appeal to a suprasensible, noumenal (e.g., supernatural) ground as the condition for the possibility of creative freedom, for such freedom is here grounded in the creativity of nature as such. Finally, because such a framework allows us to place the principle of self-integration within the natural world as such, nature itself becomes a place that is rich in objective value (in stark contrast to the valueless mechanistic world dominant throughout so much of modern thought).⁹

The image of nature that emerges from the metaphysics of relational creativity outlined here allows us to bring freedom and nature together in a speculative system that satisfies our instinct for symmetry while still maintaining enough of the deterministic assumption to satisfy most naturalistic philosophers. Since creativity is nothing apart from its individual instances, and its individual instances form a continuous stream of serially situated structures of self-integration, then the system satisfies the demand that “an asymmetry must always come from an asymmetry.” And since self-integrating structures that stand as the ultimate building blocks of reality must necessarily stand in a determined relation to antecedent conditions (both in terms of the ‘material’ they inherit as efficient cause as well as the self-integrating ‘power’ that is continuously present throughout the iterated series of its uniquely individuated members), then even the creative power of self-integration can itself be seen as a constitutive ingredient in the passage of the series. Expressed in Kantian terms, the so-called ‘unconditioned’ power of self-determination characteristic of creative freedom (understood as freedom of the will) is here a conditioned activity that is grounded in the continuous series of self-integrating structures. Thus there is no problem of something coming from nothing, or of things being perceived as unmoved movers, *causa sui*, *sui generis*, etc. The ‘unconditioned’ ground for the possibility of creative freedom has itself been conditioned by the metaphysical principle of relational creativity.

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⁹ This is crucial for developing a healthy understanding of nature that is grounded in a truly comprehensive (i.e., environmental) ethic. Rather than viewing the world as a valueless resource to do with as we please, we would now have to view it as an essential ground of all that is good, with morally worthy goods being spread throughout the entire realm of nature as such. Nature thereby emerges as something we must come to understand and know in all its details, but with the respect due to something that has its own moral worth to which we are so intimately connected. For more on this see Whitehead (1967, 1968), Merchant (1983), Rolston (1994), and Lee (1999).

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