On Matters of Concern:

Ontological Politics, Ecology, and the Anthropo(s)cene

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Ontology is in; epistemology is out. The question is no longer how we know what we know, but what *is*: what are the fundamental constituents of the universe, what is their nature, how do they relate and differ, and so on. Ontology, furthermore, is political. Or so a certain glean of the intellectual and philosophical landscape might suggest. Ontology has become an issue (again) among philosophers, anthropologists, sociologists, geographers, science and technology scholars, and others, in a way that it has not been for perhaps a century.

This paper arises from an entanglement of conversations in ecologically informed philosophy. Most specifically, it emerged from debates within the movement of "speculative realism" around the subspecies of that genre known as Object-Oriented Ontology ("OOO") and its defense of an ontology of objects rather than processes. More broadly, the paper attends to conversations in the "ontopolitical" milieu of contemporary social, cultural, and environmental theory, a milieu in which posthumanism, critical animal studies, actor-network theory, assemblage theory, critical realism, agential realism, nonrepresentational theory, enactive and embodied cognitivism, post-phenomenology, multispecies ethnography, integral ecology, and various forms of "new materialism," "geophilosophy," and "cosmopolitics" fashion themselves as intellectual responses to the predicament indicated by such terms as the ecocrisis, the climate crisis, and the Anthropocene.

One of the lines of debate to which this paper responds is that between those who believe we have lost a sense for the objects that make up the world and those who believe that what we need is a more nuanced account of processes, both those encompassing human-nonhuman relations today and those encompassing all dimensions of the knowable universe. Object-oriented philosophers, like Graham Harman (2005, 2009, 2011), Levi Bryant (2011, 2014), Ian Bogost (2012), and Timothy Morton (2013), begin from the premise that the best description of the world is one that attends closely to the objects that make it up. This is their "realism" more

broadly, and their "objectivism" more specifically. While this premise sounds, at first blush, not unlike phenomenologist Edmund Husserl's call "back to the things themselves," the difference is that Husserl approached those "things" through the human perception of them—to which Martin Heidegger, Maurice Merleau-Ponty, Jean-Paul Sartre, and others added an emphasis on interpretation, language, discourse, embodiment, decision, and other contextual determinants of human experience. Object-oriented philosophers are more interested in decentering human perception and experience, so that it is no more valued in principle than any other kind of experience. In part, this is out of a desire to account for a world that, as Bryant (2010, par. 1) has put it, "far from reducing the number of existing objects as alleged by reductive materialisms, has actually experienced a promiscuous proliferation and multiplication of objects of all sorts."

This desire to acknowledge the proliferation of objects is a valuable step for philosophers insofar as it returns us to a concern for the world, and not merely for humanity. Yet it is important to recognize that this proliferation results, in large part, from the tremendous proliferation of commodities in a capitalist world-economy—the most productive economy the world has seen, whose productivity relies on the extraction of substances from their processual relations to produce things that appear to have no such relations—objects that are simply there, for us to admire, desire, purchase, and use. The "objectivity" of these objects is a product of a set of relations; it is illusory, or partial in any case, to the extent that these objects are not simply objects as such, but that they, for all their specificity, arise out of certain kinds of processes (extractive, productive), give rise to others (consumptive, waste-producing), and entangle their owners in relational ecologies that are morally imbued, materially generative, and dramatic in their effects on the world that is passed on to future generations.

The approach I advocate in what follows shares object-oriented philosophers' goal of a metaphysical realism, but approaches it from a direction that is in some respects the polar opposite. It begins from the premise that, in an ultimate sense, there are no objects, only events, and that what defines those events is a relational encounter in which subjectivity is central. This does not mean that it begins as a "revolt against substance," for the world of relational process is as substantive as any world of objects can be. It begins, however, from the subjective encounter. It begins, following Alfred North Whitehead (1933), Martin Heidegger (1962), Bruno Latour (2003), and Isabelle Stengers (1997), from matters of concern, and it does this because it is such matters that we are always in the midst of. It begins with a refusal to extricate the "knowing self" or "subject" from the relations that constitute it. This article proposes an evocation of what a "process-relational" ontology entails at its phenomenological and hermeneutic outset: a beginning from matters of concern, yet a beginning that allows a reaching outward to others who are similarly bound up—openly and not deterministically—within their own matters of concern.

Matters of Concern

Everything begins with matters of concern.[1] Such matters are always, as they have ever been, matters that involve us, touch and brush up against us, envelop us, or otherwise call on us to respond to them.

By "us," I have in mind not only humans, the collective "we" who have become the default in-group of philosophical thinking in the western tradition. I do not exclude humans, but neither would I circle my philosophical wagons around them. This "us" is more like a call, an appeal, a network-building probe or vector. Sometimes the extent of that network has been taken for granted: members of a tribe or nation, philosophers, citizens, humans. But in times like ours, the "us" ought to be much more open than that, and this opening-outward is the vector I would like to pursue in what follows, even if the tools I use—language, of a philosophical kind—will not reach all of us directly. The "us" is the coming-into-being of responsiveness, in all its many forms.

As for the "matters," they are such because they matter, they make a difference; so we call them to mind, we pay them attention. Mattering, they come to mind; minding, we come to matter. Matter and mind are nothing of themselves except as they come, and in the time that they come, to each other. The same can be said of subjects and objects: they are nothing except as they arise with respect to each other. "Concern" is precisely that "with respect to" that brings them together.

To be sure, there are things, things that happen. There are matters, matters that come to mind. The sequence I will posit, considered as a kind of ideal or logical progression, follows the triadic phenomenology laid out by American philosopher and logician Charles Sanders Peirce (1958): there is, first, the *thing*, then the *happening*, then the *matter* of which the happening is a sign, a reminder, a call, a prompt, an issue, a problem, a pattern, or a law. There are, in other words, spontaneously generated qualities—not Platonic Ideas, but simply the potentials inherent in anything, structured by their forward movement coupled with the play of chance; then come the relations, as certain of these potentials become actualized in real encounters in a multiplicitous universe; and, thirdly, there arise the mediated consistencies, habits, patterns, regularities, laws, generalizations, and meanings. This triadic dynamic of "firsts," "seconds," and "thirds," as Peirce called them, is always at work, and constitutes the heart of the *worlding* of the world (any world): in this way things become, and in this way they come to signify.[2]

But to call the things "objects" is already to suggest too much about them. There are, from this perspective, neither subjects nor objects at the outset, just things in their singularity. This is the world of virtualities, which is not yet a world, but what precedes worlding. Actualizing, those virtualities become happenings: they intervene into the times and spaces of other things, each imposing itself on another, each resisted by others. This is the world of events

[1] Bruno Latour (2003, 2005) has argued, in a series of writings, that we must shake the notion that science will resolve our problems through its attendance to 'matters of fact,' and must instead start from 'matters of concern.' This step is akin to, and in

[2] Peirce's triadic outline of the logical categories of all experience was an obsession throughout his philosophical career. It took many forms, and in the end was the single contribution he felt was most original and significant in his philosophy. For one version of it, see "The Principles of Phenomenology: The Categories in Detail" (Peirce, 1958).

and relations, which is the world in the process of being made, of being woven into fabrics of relational force and counterforce, networks, systems, webs. This is the world that scientific analysis likes to probe, methodically and systematically. Finally, there is the world of significance, the world that is now fully *a world*, inhabited. Humanists prefer to start here, analyzing our significances as things not to be taken for granted, but always produced. But where humanists often stop short is in recognizing that neither the happening nor its significance is peculiar to humans. Humans do it, but so do many others: we make sense of things, which thereby become signs, meanings obtained about a world through the things, the images, the objects we encounter. We feel, and respond, to that which happens, and in the responding we generate a world.

I am describing here a view of the world as made up of relational processes, events of encounter, acts of experience, and nothing else. Everything there is *takes place*; which is to say that it *gives place*, it *places* (as Heidegger might say). Its taking place is what gives it existence, but its *specific* kind of existence comes from what constitutes it at the outset, as the thing that it is, the thing in its *firstness*, and the dynamics of its encounter with other things. In existing, it has entered into relations, or *secondness*; its moment of existence (and we are talking about moments here, events, and nothing else) is inherently relational. In coming to exist, its origins withdraw from itself and from others; but once it is existent, for the moment that it is, it becomes part of the field of potentialities for the next set of existents. As A. N. Whitehead (1933) described things—that is, events—these are constituted by the encounter of an emergent subjectivity, a mental moment of pure feeling, with some *matter* that is there for it to behold and to respond to. The occasion is dipolar: at one end mental or subjective, at the other physical or objective. But the subjectivity lasts as long as the moment, which begins with a “prehension,” a taking into account, and rounds off with a satisfaction, a “concrescence,” at which point the subject becomes an object, a datum, for the next set of moments that may emerge. And so on, ad infinitum.

In this way the world proceeds, an “advancing assemblage” of “processes of experience” (Whitehead, 1933, p. 197), a simmering ocean of becoming, subdivisible into streaming, temporal, relational vectors. None of these processes is exactly alike: there are different kinds, varying in texture, in extent, in stability, in rate of change and style of movement, in manner of organization. In the encounters between emergent processes, the organization of such processes folds over, takes on a layering of surfaces and depths, of outwardness and inwardness, and interacts to create larger processes, larger networks, whose consistencies give us the world, or worlds, that we and others perceive and inhabit. Perceiving, we respond, and responding we come to inhabit; we habituate. The world, in the end, is a world of evolving habits shot through with chance and with novelty, which seed it with further novelty, further habituation, further evolution.

Between Whitehead and Peirce and the other thinkers who could be drawn into a process-relational account of things, there are discrepancies, gaps, and divergences one could spend lifetimes splicing or smoothening over. The list of such thinkers might include Zhuang Zhu, Heraclitus, Nagarjuna, Śāntarakṣita, Fa-tsang, Zhi-yi, Dogen, Bruno, Spinoza, Leibnitz, Schelling, Goethe, Nietzsche, Bergson, Dewey, James, Aurobindo, Nishida, Nishitani,

Hartshorne, Bateson, Simondon, Deleuze, and many still among us—Michel Serres, Nicholas Rescher, Bruno Latour, Isabelle Stengers, Robert Corrington, John Deely, Freya Mathews, Karen Barad, John Law, Manuel DeLanda, Sandra Rosenthal, Brian Massumi, Catherine Keller, William Connolly, Jane Bennett, and others.[3] And between them one would find debates over the constitutive weight of novelty as opposed to habit, continuity versus discontinuity, relational symmety versus asymmetry, "levels" of reality and their respective emergence and effect, and other themes. A wall built with the materials they together provide might not withstand the spring's first flood. But a life-raft built from them could carry us far from where we started. And since nothing stays in place for long (at least if what they tell us is true), it's the carrying that counts, not the flood control.

Having laid out this set of preliminary constellations to orient us, we must eventually return to what we have in our midst, which are always those matters of concern. *Projects*, in other words, but projects that take their start from situations.

A Feeling for Experience

An ant colony builds itself from the actions of its members: gathering leaf litter, sticks, bits and pieces of the environing world, tunneling, communicating, building, nursing. None of

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[3] Whitehead's metaphysics is the one most commonly referred to as 'process-relational'; see especially his magnum opus *Process and Reality* (1979) and the more elegant synopsis found in Part Three of *Adventures of Ideas* (1933). C. Robert Mesle's (2008) *Process-Relational Philosophy: An Introduction to Alfred North Whitehead*, while an oversimplified introduction to his thought, makes clear why the term is appropriate. More generally, however, the term 'process-relational' provides a good description for common themes across a wide range of traditions, including process philosophers in the West (such as many of those mentioned); artists and writers such as the Romantics and Transcendentalists (Coleridge, Emerson, Muir, *et al.*); a variety of African and indigenous philosophies; the writings of mystics from Plotinus and Shankara to Rumi and Boehme; and much of what falls into the Buddhist, Daoist, and neo-Confucian traditions of South and East Asia. Related views have become influential within contemporary "post-constructivist" or "non-representational" scholarship in the social and cognitive sciences, including in actor-network theory, enactive cognitivism (Francesco Varela and others), developmental biology (Susan Oyama), ethology and biosemiotics (Jakob von Uexkull, Thomas Sebeok, Jesper Hoffmeyer), non-representational and socio-natural geography (Nigel Thrift, Sarah Whatmore, Steve Hinchliffe), and the speculations of theoretical physicists and biologists such as David Bohm, Ilya Prigogine, and Stuart Kauffman. What these thinkers share, for all their diversity, is a focus on the world-making creativity of things—on how things become rather than what they are, on emergence rather than structure. Process-relational thinking is an alternative not only to *materialism* (the view that matter is fundamental and that human consciousness or perception is a by-product or epiphenomenon arising out of material relations) and to *idealism* (the view that perception, consciousness, thought, spirit, or some other non-material force is fundamental and that material relations are secondary), but also to those interactive and dialectical philosophies that presume a relatively closed binary substructure of one kind or another (such as matter versus spirit, idea, or mind; or any conception of opposites, such as *Yin* and *Yang*, in which homeostatic balance rather than evolutionary change is considered the baseline norm). That said, process-relational themes can be found fairly prominently in the work of four of the giants of modern philosophy: Hegel, Marx, Nietzsche, and Heidegger.

For general accounts of process-relational themes, see Nicholas Rescher (1996), *Process Metaphysics: An Introduction to Process Philosophy*; Rescher (2000) *Process Philosophy: A Survey of Basic Issues*; Rescher (2007) "The Promise of Process Philosophy"; Douglas Browning and William T. Myers (1998) *Philosophers of Process*; and David Ray Griffin (1993) *Founders of Constructive Postmodern Philosophy: Peirce, James, Bergson, Whitehead, and Hartshorne*. For examples of the evolving dialogue among the different positions within process-relational theory, see Keith Robinson, ed. (2008) *Deleuze, Whitehead, Bergson: Rhizomatic Connections*; Michel Weber ed. (2004) *After Whitehead: Rescher on Process Metaphysics*; Catherine Keller and Anne Daniell (2002) *Process and Difference: Between Cosmological and Poststructuralist Postmodernisms*; Anne Fairchild Pomeroy (2004) *Marx and Whitehead: Process, Dialectics, and the Critique of Capitalism*; Roland Faber and Andrea Stephenson (2011) *Secrets of Becoming: Negotiating Whitehead, Deleuze, and Butler*; Steven Shaviro (2009) *Without Criteria: Kant, Whitehead, Deleuze, and Aesthetics;* Isabelle Stengers (2011) *Thinking With Whitehead: A Free and Wild Creation of Concepts*; and William Connolly (2011) *A World of Becoming*. Comparative studies of process philosophy and Buddhism include Steve Odin (1984) *Process Metaphysics and Hua-yen Buddhism: A Critical Study of Cumulatie Penetration vs. Interpenetration*, and Peter P. Kakol (2009) *Emptiness and Becoming: Integrating Madhyamika Buddhism and Process Philosophy*).

these ant "individuals," not even the queen herself, could act in this way without the rest of the colony. Both the body and the mind of the colony—its "objective" parts, those we can see, describe, dissect, and measure, and its "subjective" parts, which are the moments of felt decision that turn an ant this way rather than that way in its crossing of a trail in a forest, or those that bring a team of ants together to haul a large leaf or dead grasshopper—these are all dispersed in space, they are *spaced*, detached from each other physically (or so it appears when we observe them), but *mentally,* in terms of the interactive processing of signs and relations, they are networked together into a coordinated collectivity. The network of the colony is not only made of those ant bodies, but also what they are *capable* of and what they *do* with things—with soil, leaves, sticks, pieces of food. By most objective measures, anthills are cities: they include complex systems of transportation, communication (pheromone-based), ventilation, sewage disposal, food production (the farming of plants, the growing of fungus, the raising of aphid cattle), cooperative labor, warfare, and slavery.[4]

In the worlds of ant colonies, however, what are the "objects" and what are their "relations"? An individual ant could hardly exist on its own, though a lost ant might be able to find food and maneuver its way into another colony (though what will happen to it there is another matter).[5] A colony could hardly have emerged without its environment, such that the colony-landscape network, the subterranean city with its above-surface hinterlands and the patterns and relations holding them together, is itself an object of sorts. But if one is to say that the reality is made up of "objects" engaged in "relations," one would have to draw lines (around ants, or colonies, or something) that, like light waves and particles, are sometimes there and sometimes not. The result would be little better than acknowledging that reality includes textural lumps and nodes in the networks that make it up. Lumps, nodes, and networks are descriptions of things from their outside. A process-relational view, following Whitehead (1933) and Peirce (1958), insists that there is also an *inside* to everything, an interiority, but that this interiority is not normally evident at the level of the everyday distinguishable object. Such distinguishing will, after all, vary depending on the thing doing the distinguishing; ontology and epistemology, in this way, are tightly interwoven within each fragment of existence.[6] Rather, the interiority is of the moment, the event, the act of prehension and concrescence. The reality of the ant metropolis,

[4] "The commonalities between ants and people are striking. Both alter nature to build nurseries, fortresses, stockyards, and highways, while nurturing friends and livestock and obliterating enemies and vermin. Both ants and humans express tribal bonds and basic needs through ancient, elaborate codes. Both create universes of their own devising through the scale of their domination of the environment. As inveterate organizers, ants and people face similar problems in obtaining and distributing resources, allocating labor and effort, preserving civil unity, and defending communities against outside forces" (Moffett, 2010, p. 223).

[5] For instance, if it is an Argentine ant from San Francisco being dropped off in San Diego, it will fit in seamlessly within its new host group, which is of the same colony or "nationality," as Mark Moffett (2010) calls these groups. But if it is dropped off in Mexico, or in one of the other three colonial territories of Californian Argentine ants, it will likely be murdered very quickly.

[6] An adequate ontology will have to be of the sort that allows for the kinds of knowing, or prehending, that are possible in the world. There is no way we can account for the ontology of the world without factoring in the actual existence of our own knowledge of it. 'Knowledge' and 'truth' are not *mere* 'reference,' descriptions *corresponding* to something but themselves floating free of the world, with no existence of their own. Truth is an *event* and knowledge is a 'vector,' as Latour (2008) puts it. In turn, an adequate epistemology will have to account for the kinds of processes and relations that make up those events of knowing, or, more broadly, prehending, *since it is events of knowing/prehending/responding/acounting that*, in a process-relational view, *make up all there is*.

then, is one of *events* of feeling and decision, acts in response to those matters of concern, the entanglements of subjectivation and objectivation that are occurring everywhere in their own time. What we—the non-ants observing the ants—see is not the real events themselves, but only what our own subjective grasp makes available of them to us.

A process-relational ontology, following Whitehead (1933), takes the world to be dynamic and always in motion. Its fundamental constituents are not objects, permanent structures, material substances, cognitive representations, or Platonic ideas or essences, but relational encounters or events, moments or acts of existence. An actual occasion, as Whitehead calls such an act of existence, is a "drop" or "throb of experience," a process of "actualization of potentiality" that is inherently "emotional" and "prehensive" in nature. Whitehead revises Descartes' claim that "the subject-object relation is the fundamental structural pattern of experience" (p. 189) by disentangling this relation from enduring substances (and from the knower-known relation) and placing it instead in the momentary arising of each actual occasion. Each such occasion is characterized by a mental pole set against a physical pole, a subject emerging momentarily in relation to an object, which is the datum or data set that comes inherited from the immediate past and from its immediate outside.

"The basis of experience" is, for Whitehead (1932), "emotional"—and for Peirce (1931), one of "feeling."[7] Its "basic fact" is "the rise of an affective tone originating from things whose relevance is given" (p. 130). A subject emerges *in concern* for an object, with each defining the other in the process. "An occasion is a subject in respect to its special activity concerning an object; and anything is an object in respect to its provocation of some special activity within a subject" (p. 131). Individual subjectivity, for Whitehead, or "our consciousness of the self-identity pervading our life-thread of occasions, is nothing other than knowledge of a special strand of unity within the general unity of nature," a unity in which the "general principle is the object-to-subject structure of experience," the "vector-structure of nature," "the doctrine of the immanence of the past energizing in the present"(p. 143), "the transference of affective tone, with its emotional energy, from one occasion to another" (p. 144). "Each occasion has its physical inheritance and its mental reaction which drives it on to its self-completion" (p. 146).

These quotes address the more microscopic or molecular level of the view I am presenting here. There are other levels, including a level of complexity in which the universe can only be conceived as a tumbling forward of such interrelated and interacting, differentiating and coming together, moments of experience. Whitehead's (1979) descriptions of "nexus" and "societies" — constellations of mutually coordinating occasions, which enjoy a relative persistence over time, over space, or both — begins to account for the more stable entities making up the universe. But other relational descriptions, such as Deleuze and Guattari's (2005) assemblage theory, Latour's (2005) actor-network theory, a vareity of dynamical and emergent systems theories, and De Landa's (2009), Protevi's (2009), and others' adumbrations of these,

[7] The differences between Whitehead and Peirce, while significant, are beyond the scope of this article. For comparative insights, see the respective chapters on the two philosophers in Charles Hartshorne's (1984) *Creativity in American Philosophy*; Sandra Rosenthal (1998) "Contemporary process metaphysics and diverse intuitions of time: Can the gap be bridged?'; Robert C. Neville (2004) "Whitehead and pragmatism," and the writings of Robert S. Corrington.

are better at accounting for the different ways that *different* things come together into patterned networks, with agency (subjectivity) and givenness (objectivity) distributed in particular ways through those networks.

A process-relational ontology that attempts to provide a realistic depiction of the world must take note of distinctions between different sorts of relational processes. Such processes can be fast or slow, thick or thin, complex or simple, opaque or translucent, extensive or intensive, linear or multilateral, smooth or stratified, hierarchical or egalitarian. Relational processes have unfolded historically in ways that have given the world its complex and variable textures: its folds, thicknesses, speeds, movements, rhythms, consistencies, patterns, trajectories. The universe, in this view, is continuous (for the most part), but the continuities are pleated and enfolded, inflected with waves, currents, undulations, and vortices. It is a generative and open universe governed by intensifying, differentiating, and habit taking tendencies. And it is within these habit-formed folds and pleats that we, human "subjects," typically find ourselves.

A World of Events

If there are discontinuities in this account of the universe, there is no object *alone*, none that is capable of remaining itself under every set of conditions. Because it is process, there is always an interdependence between a thing and its environment (which means, other things that preceded it and with which it has been in recurrent, complex, prehensive or semiotic contact). An organism and its environment mutually shape each other, not only in the evolutionary history that the organism has inherited, but in the active life-history of that organism (Lewontin, 2002). And where there are many organisms mutually shaping themselves and their environments, there is, to creatively misquote Jerry Lee Lewis, a *whole lotta shapin'* going on.

To stick, for the moment, with living things: all such things consume, produce, and metabolize other things. In the process, both the thing and its environment change, even if certain sets of formal relations are conserved over time. Individual organisms maintain a certain structural coherence; humans maintain a recursive sense of identity over time. Such sets of persistent formal relations make it possible for us to recognize certain things as "individuals" or "persons." But any such designation is a social, or context-dependent, designation; it applies conditionally and relationally to selected kinds of things and not to others. A human, for instance, is an individual to *another* human, or to a dog, but probably not to an ant, a bacterium, a quark, a fungal growth, a corporation, or a star. Its individuality is a matter of its location within a set of relations where its individuality counts, where it makes a difference, where it matters. Mattering, in this sense, is what makes a world. What matters is what is significant, what is to be taken into account; it is *material,* but what is material is always also processual, relational, and energetic, always a mix of the subjective or mental (viewed from the "inside") and the objective or physical (viewed from the "outside"). And by the same token, what to us appears individual, an object in its own right, to another sort of entity may be nothing of the sort. Each in its own domain defines its world, perceives and orders its world. Here is the Kantian correlation, the mind-world relationship that Quentin Meillassoux (2008) identifies as the crutch

at the heart of philosophy since Kant. But it is not an exclusively *human* crutch, separating an "us," those that think, from a "them" who do not. It is spread through all things, an opening that takes root at the heart of each thing, each event, each occasion of which the universe is made—and which comes to extinguish itself at the end of that event, giving way to another, and another.[8]

But that world, the *Umwelt* (von Uexküll 1957) of the thing in question, is not merely its own. It is built of signs, of things standing for other things, where the signs, or the meanings they carry, are not merely conceived "in the mind" of that thing. The meanings emerge out of a set of dependent, triadic relations, as Peirce described them. For something to carry meaning there must be, in his terms, a *representamen*, or sign vehicle, which carries the meaning by standing for something else; an *object*, which is the inaccessible "something else" being referred to; and an *interpretant*, which is the meaning created for a beholder at a given moment.[9] Signness happens; it is a process of becoming. But it is anchored within the universe, and once it has happened, that sign, the vehicle of meaning, becomes datum for the next moment of semiosis. As the subject of an occasion (in Whitehead's sense) takes another as its object, prehending and responding to it, so that other (the object) is always connected to a more distant otherness, a withdrawing otherness that lies beyond the given occasion. It is that which ties that occasion to the rest of the universe.

There are, then, the moments that move together in various ways to create the patterned regularities of the world as we know it. And this world "we know" is unique to the "we" who know it, though it is always connected to the worlds of the other "we's" who know their worlds in their own ways. For humans, this world is made up of distinct objects: persons, cats, cars, and cans of soup, each performing the activities that makes them what they are. But for many unlike us—ants, amoebas, bacteria, electrons, oxygen molecules, biospheres, stars—things may be quite different. We share the same universe, however, and so we may as well use our imaginative abilities to describe that universe in a way that might apply as well to amoebas and stars. A process-relational ontology differs from an object-centered ontology in its belief that the best

[8] The view expressed in this paragraph makes process-relational ontology distinctly different from Object-Oriented Ontology. For the latter, the individuality of an object *is* irrespective of how it is perceived or prehended by others. In a process-relational ontology, on the other hand, what is *real* is relational processes, events, and thus the individuality of a constellation of such events—a human being, or a "society" in Whitehead's (1979) terms—is no *more* real than the individuality of each of the occasions making it up. The perception of a *persistent* individuality requires a sharing of perception across adjacent and related occasions. The ontological reality of specific things—persons, social collectives, nations, and so on—depends on the forms of recognition that make those things possible. Take away the perceptions, the recognitions, and societies fall apart. Ontological complexity of any order, then, is impossible without the epistemological complexity that it relies on, and describing the first without describing the second makes for an inadequate understanding of both.

[9] Peirce's (1958) analysis of the sign can be compared to Whitehead's (1933) analysis of a prehension as similarly involving three factors: "There is the *occasion of experience* within which the prehension is a datum of activity; there is the *datum* whose relevance provokes the origination of this prehension; this datum is the prehended object; there is the *subjective form*, [emphasis added] which is the affective tone determining the effectiveness of that prehension in that occasion of experience" (p. 176). In addition to the temporary 'subject' and 'object,' then, there is the occasion itself that mediates between them and makes them possible, an occasion that rounds itself off with a 'concrescence.' Peirce's (1958) description of the *sign* as the elemental process making up the universe stresses *interpretability* or the generation of *meaning* as the core of that process. Whitehead's (1933) emphasis, on the other hand, is on feeling or affective tone, which he elsewhere relates to 'appearance' as opposed to 'reality.' In both cases, novelty arises in the subjective form—Whitehead's 'affective tone,' Peirce's 'interpretant'—that emerges in each prehensive or semiosic occasion.

first step toward a more cosmopolitically *common* ontology—a common world whose members will always remain somewhat elusive—is the step that claims that events, processes, and not enduring objects, are primary (Stengers, 1997).

That world, according to a process-relational view, has a relational complexity that eludes a division into objects. There are boundaries, firewalls—as Harman (2005) calls them—between the internal and external, or "domestic" and "foreign," relations of an object, an entity or set of relations that persists over time and external change. But even a firewall requires maintenance, and its activity is a matter of doing, of behavior, or at the very least of habit. A bear or tree goes into hibernation for the winter, then re-emerges into action when spring comes. A caterpillar recedes into a larva, which one day is shed by a butterfly. I learn how to consume vast quantities of alcohol, or become a heroin addict, or learn to spend most of my time in online gaming worlds, surfacing for food or drink only once or twice a day but dramatically affecting the features of the game world. My partner grows a fetus within her body, which is born and, in intimate interaction with her and other humans, becomes a child and eventually an adult. The Earth begins to convert carbon dioxide into oxygen, leading to the emergence of aerobic organisms. Each of these is a transformation, which may be patterned over time in relation to its environment, or which may be singular and irreversible. Among the irreversibles is the point at which a body we call *living* collapses in its vital circulations, those that maintain it with a certain integrity of structure and allow for an integrated engagement with its outside, and restabilizes at a reduced level of activity, at which the hair becomes mere hair, the bones mere calcium compounds, the body mere body, no longer social, no longer person. At this level, too, molecular and electrochemical life continues.

Composing Integrity

The point, for a process-relational philosophy, is to develop a vocabulary sensitive to the various kinds of change, interaction, emergence, network-building, and system-maintenance that make up the world as it proceeds forward from one moment to the next, developing new habits and actualizing new potentials along the way. We find ourselves amidst those relations, tied to things, material densities, in specific ways, and come up against the challenges those ties, those habits and tendencies, run up against. Our questions, our matters of concern today—such as how to satisfy the requirements of seven billion humans, how to balance these against each other, and how to manage our activities so they remain within an allowable basin of error rather than bifurcating through an irreversible shift in global climate systems to something unseen in tens of thousands of years—these are all questions of relational design (where *design* is a verb and not a noun), questions of *composition*. Habits and patterns of interaction have developed over time. Alliances have been built—between humans, photosynthetic processes called grasses, and herbivorous processes we identify with sheep, cows, and the like; and between humans and flesh-compounding processes that have given us fossil fuels. Interactions have intensified, but knowledge of the sustainability of those interactions has lagged behind their novel production. Humans, like other animals, are experimental and pragmatic modes of functioning for whom

error follows trial, learning follows error, and innovation, where it occurs, follows or accompanies learning.

There are, in all such relations, matters of concern. There are things that happen, and that provoke a response. Observing the many things that happen, relational processes all, we note a scale of complexity and differentiation, of pattern-making at variable levels of order. There is feeling, feeding, oxygenating, reproducing, socializing, swarming, migrating, erupting, quaking, thinking, dramatizing, road- and city-building, boundary-maintaining and -crossing, warring and peacemaking, atmosphere-carbonizing and ocean-plasticizing, and much more. These relational events, these networkings, are always and everywhere temporal, dynamic, interactive, effective, and affective. They are verbs rather than nouns, processes rather than objects; they are verbs connecting nouns or nodes, which are temporary congealments, eddies in the stream. An amoeba responds to an object in its environment by moving toward or away from it, or by ingesting a part of it. The molecules of a slab of metal mingle with oxygen to produce rust. The slowness of the latter, and the minimal amount of agency compared to what we humans are used to, in no way eliminates the structural parallel with our own activities. Neither does the magnitude and impact of a much grander scale of event: a lake's damming by a family of beavers; a gathering of world leaders upstream from the dam (say, in Bretton Woods, New Hampshire, in 1945) agreeing on an international financial architecture that will shape the world for the next forty-five summers; a volcano's erupting 28 million years ago, extinguishing many of the life forms on the planet's surface. Where in that range future geologists will place the Anthropocene is, as yet, uncertain.

There are events, which become matters of concern, and that is where we find ourselves. Mattering, they come to mind. Minding, we come to matter. And in the moment of contact there is a feelingful act, a decision, a choice, which is the hinge on which all things (perpetually) turn. It is where the action is. And with each turn of the wheel, each point of decision, each feelingful response to the world, a new world, a new set of possibilities, comes into being. Time's arrow is, in this sense, asymmetrical, with novelty entering into every moment, changing the equation for the next moment and the next. As Whitehead (1933) puts it, "The creativity of the world is the throbbing emotion of the past hurling itself into a new transcendent fact. It is the flying dart, of which Lucretius speaks, hurled beyond the bounds of the world" (p. 177). In the process, the world is continually renewed, and we are invited to be part of its renewal. How we, all of us (subatomic particles, organisms, suns), follow our invitations determines the trajectory of its further renewal.

It is this matter of *how* we take up those matters of concern that can guide us toward what I would like to call an "ecology of integrity." "We" arise at decision points, poised at new folds in the fabric of becoming; so do we all, whatever forms we take, human-like or not. An ecology of integrity, I am proposing, is an ecology—a knowledge (*logos*) of our home (*oikos*)—that respects the soundness and the wholeness (*integritas*) of the relations that constitute us, the potentials they carry, and the undetermined futures toward which they open up. It does this not merely by focusing on objects—the things we can distinguish out there in the world—or on the relations between those objects, as ecologists have tended to do. Rather, it acknowledges that the

"objectivities" we perceive are one face of the things that are "out there." The other, the subjective, always recedes from us; it is always the "in here," even if it is not *our* "in here." Neither, furthermore, is permanent; the two arise together from interactions that change each.

An ecology of integrity assumes that there is process both at the heart of every event-entity *and* folded into, and unfolding through, the capacities that are actualized (or not) in every moment. This "folding into" (and "forking out of") refers to what we might call the *structure* of things. For the purpose of an onto-phenomenology of becoming, this structure can be considered in as simple terms as processual structures come (in Peirce's argumentation): it is triadic, consisting of the quality (firstness), the relation (secondness), and the pattern (thirdness). In the unfolding of triads, however, there is endless flowering.

Aesthetics, Ethics, and Ecologics of the Event

One such triad that plays a particularly acute role in the moments of decision by which entities (or "eventities") like us *become*, is the triad referred to by Peirce (1998b) under the deceptively mundane category of "normative sciences." Unlike phenomenology, which for Peirce inquires into *phenomena as they appear* (that is, in their firstness), and metaphysics, which inquires into *reality as it really and ultimately is* (in its thirdness), the normative sciences examine phenomena in their secondness—that is, in the ways they act upon us and we in turn can act upon them. It is with these that we find our opening to act and affect the world, to respond to it creatively, and to renegotiate and reframe our own potentialities for future actions.

The three normative sciences, for Peirce, are aesthetics, ethics, and logic. As entities capable of acting both upon others and upon ourselves, we are, for Peirce, called upon to cultivate habits by which we can manifest the ethically good, the logically true, and the aesthetically beautiful—or at least to decide upon how we would define our own "good, true, and beautiful," to be tested out in action within our lives. Insofar as they are matters of cultivation, the normative sciences are as much science as art. They are akin to Michel Foucault's "techniques of the self" or "arts of existence"[10]—arts by which we cultivate habits that allow us to appreciate and manifest the beautiful or admirable (aesthetics),[11] the just and virtuous in our relationships with others (ethics), and the truthful in our understanding of the world (logic).[12] An ecology of integrity is, in this sense, not a mere study, but always an appreciation (being

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[10] See Foucault (2005), *Hermeneutics of the Subject: Lectures at the Collège de France 1981-1982*; Foucault, Martin, and Gutman (1988), *Technologies of the Self: A Seminar with Michel Foucault*. For similar themes, see Hadot (1995), *Philosophy as a Way of Life: Spiritual Exercises from Socrates to Foucault*; Sloterdijk (2013), *You Must Change Your Life*.

[11] "Beauty" is a risky term here, since it is culturally variable. Peirce found it inadequate, preferring the Greek terms *kalos* and *agamai,* since they accommodated the unbeautiful within their scope, and Peirce acknowledged that aesthetic goodness is hardly encompassable within our perception of what is pleasant or not. On this, see Kent (1987).

[12] The division of the normative sciences into aesthetics, ethics, and logic came relatively late in the development of Peirce's thought and is found in its most complete form in his writings and lectures from 1902 onward. See, for instance, the fifth of his Harvard Lectures on Pragmatism, "The Three Normative Sciences," (Peirce, 1998b), and "An Outline Classification of the Sciences" (Peirce, 1998a). See also Beverley Kent (1987) *Charles S. Peirce: Logic and the Classification of the Sciences*. For discussion of aesthetics, ethics, and logic in Peirce, see Bent Sorensen and Torkild Leo Thellefsen (2010) "The Normative Sciences, the Sign Universe, Self-Control and Relationality—According to Peirce"; Martin Lefebvre (2007) "Peirce's Esthetics: A Taste for Signs in Art"; Carl M. Smith (1972) "The Aesthetics of Charles S. Peirce"; and Herman Parret, ed. (1994) *Peirce and Value Theory*.

aesthetic), an action (that is ethical), and a commitment to learning alongside others into the indefinite future (which is logic, as conceived broadly by Peirce).

It is through the cultivation of new habits that we can modify our behavior in coordination with our beliefs, so as to test whether those beliefs ought to be accepted or rejected. Aesthetic habits concern firstness, the "quality of feeling" of a phenomenon; so aesthetics involves the cultivation of "habits of feeling" that allow us to appreciate the "admirable."[13] Ethical habits concern secondness, or reaction and relation, such that ethics relate to "the deliberate formation of habits of *action* consistent with the ethical ideal" and with the "deliberately adopted aim."[14] Logical habits concern thirdness, or mediated representation, pattern, and law. The goal of logic is to discover the "habits of inference that lead to knowledge, including positive knowledge" (supposing there is a reality to a given phenomenon), and "to such semblance of knowledge as phenomena permit (supposing there is no perfect reality)."[15] While logic is about truth and falsity, and ethics is about "wise and foolish conduct," aesthetics is about "attractive and repulsive ideas" and more generally about "expressiveness."[16]

An aesthetics of firstness is not, however, merely about our appreciation and evaluation of things that appear to us, such as art or physical appearance. It is also about our comportment toward those appearances. It is about the ways we *allow* things to appear to us and the ways we cultivate the appearance of things *to us*. This aesthetic of appearances concerns perceiving and cultivating something like the beauty in things. In more processual terms, this means cultivating our capacity for perceiving the appearances and arisings—the firstness—of the world. "Beauty" is a risky term here, since it is culturally variable. Peirce found it inadequate, preferring the Greek terms *kalos* and *agamai,* since they accommodated the unbeautiful within their scope, and Peirce acknowledged that aesthetic goodness is hardly encompassable within our perception of what is pleasant or not.[17] To the extent that all perceptions arise in relational contexts, aesthetic perception as such involves perception of a thing against and in relation to its background—a perception of the wholeness of what appears in its arising and passing, which means an observation of something that is emerging into being (firstness), into interactivity (secondness), and into meaning (thirdness). In the context of our everyday lives, this suggests expanding our capacity to perceive and appreciate the nature of things—which means to see them not just as objects, present-at-hand (*Vorhanden*) or ready-to-hand (*Zuhanden*), but as processual enactments and achievements with an integrity of their own.

Ethics, in turn, is about cultivating ways of responding to others such that we sympathetically recognize *their* positioning in their interactions with us. If ethics is the

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[13] See Peirce, *Collected Papers* 5.129 and 8.256; and Herman Parret, "Peircian Fragments on the Aesthetic Experience," in *Peirce and Value Theory, ed. Parret* (Amsterdam: John Benjamins, 1994), 181ff.

[14] This phrasing is Beverley Kent's, from *Charles S. Peirce: Logic and the Classification of the Sciences* (Kingston and Montreal: McGill–Queen's University Press, 1987), 165, 133. The book presents one of the most detailed examinations of Peirce's classification schema.

[15] Kent, *Charles S. Peirce,* 170.

[16] Peirce, *Collected Papers* 5.551; "The Three Normative Sciences," in *The Essential Peirce,* vol. 2, 203.

[17] Kent, *Charles S. Peirce,* 154–55. Similarly, Whitehead spoke of the value of Discord for the development of Beauty (terms that he capitalized in *Adventures of Ideas*, 252ff.).

cultivation of skillful action in response to others, and if self and other are perceived as dynamically interactive forms—signs, in effect—arising out of patterned relations, then ethics becomes a matter not of rules and injunctions, but of motivated action amidst encounter. Ethics (a second), for Peirce, builds on aesthetics (a first), just as logic (a third) will build on both. An *aesthetic* of process-relational *ethics* would be a cultivation of empathic relations, relations amidst subjectal arisings—self-semioses (since Peirce said that the self is a sign) that we know arise independently of us, yet are in some sense analogous to our own subjectivation. Those encountered become not mere objects for our admiration or judgment, but elusive strangers, whose faces beckon to us even as they decline to reveal themselves fully. Each relation places us at risk that out of it we may emerge no longer ourselves, but other.

Finally, informed by the aesthetic (in-habited feelings and percepts) and the ethical (in-habited action), logic becomes something different from the rule-based form of reasoning that is commonly counterposed against the failings of illogic. It is more akin to what we might call *eco*logic, a skillful understanding of relational emergence (appearance), interaction, and generality. An *ethico-aesthetics of ecologic* involves recognizing, and in turn cultivating, the vitality of the systemic connections that sustain a whole—a cultivation of skillful understanding that emanates as *praxis*, since it enfolds action and perception within itself.

Each of these aesthetics—of appearances, of relational encounters, and of ecology—is a selective response to a broader array of possibilities that encompass beauty alongside ugliness, good alongside evil, justice alongside injustice, and systemic cohesion alongside disorder and collapse. Attentive to these options and acknowledging their viability even as one opts for one of them over another, such an aesthetic suggests recognizing that chaos or injustice, for instance, are not necessarily "bads." In given circumstances one might even decide that it is right to cultivate the beauty and truthfulness of the chaotic, or the ugliness of justice. Such a logico-ethico-aesthetics, in other words, is not prescriptive in advance of a situation. It is a method of movement through a situation that recognizes the dependence of thirdness (logic, ecology, regularity) on secondness (ethics, action, actuality), and of both on firstness (appearance, aesthetics, qualitative potency).[18]

An ecology of integrity built on these understandings situates us as active respondents in the midst of matters of concern, and nudges us toward perceiving these matters as relational in ever widening contexts. At a time when these contexts raise urgent questions about our relations with a thickening and expansive array of others—all of those "others" implicated in the climate changes and ecological disruptions human actions produce—such an integral ecology becomes far more than a mapping of scenarios, a strategy of containment or crisis management. It becomes a cosmopolitical project, an active and ongoing logo-ethico-aesthetic practice whose

[18] Peirce's thinking on beauty and ugliness, good and evil, and coherence and incoherence, retained some ambiguity right through to the end of his life. For instance, he wrote: "Man comes to his normal development only through the so-called *evil passions,* which are evil, only in the sense that they ought to be controlled, and are *good* as the only possible agency for giving man his full development" (330.[4], in Kent, *Charles S. Peirce,* 155). Evil is, in this sense, "perfection in God's eyes," but while people can move toward a God-like vision, they have not at present (if ever) attained that vision.

ends we cannot foresee or forestall.[19] As we are all caught amidst matters of concern, minding our matters and mattering what we mind, and as our interrelations become ever more conjoined—agonistically, yet always with a promise of reaching new perceptions and understandings—so we grasp toward a cosmopolitics that brings ever more of us together. With the prospect of a radically altered cosmos, the "us" that is called into being is open-ended, never pre-determined, and will ultimately take us far beyond any "us" we might imagine.

It is in this sense that Michel Foucault (1973/2005) may have been correct when he described the figure of "man" (*l'homme*) as "a recent invention" that, with a shift in structural relations, might "be erased, like a face drawn in sand at the edge of the sea" (p. 422). The time of the Anthropo(s)cene is a time of recognition that this figure of Man has drawn its face upon all the sands surrounding all the seas of the earth. But it is a figure not of humanity, but of a particular constellation—of "man" as written by a certain caste of men, but also of capital, and of petrochemicals and other allies—that in denying its dependencies is also denying its ultimate survivability. Sand, salt, and sea will outlast the figures we draw in them, but the figures to come will need to be of a different order than those marking the appearance and imperium of this figure of "man," the Anthropos of the present Scene. All will depend on how we respond to the others with whom we share our current predicament.

A process-relational aesthetics, ethics, and (eco)logics begins not from the ontological task of describing what the universe and the things in it *are,* but from specifying what matters concern us and how we might come to mind them. As subjects of concern, we then raise such questions as "who is us?", "who are the others who bring these questions to us?", "how do we meet with them in coming to grips with these concerns?" and "what abstractions—what ontological fabrications and guesses—might help us to do this creatively and satisfyingly (for all those concerned)?" It means starting from where we are, not out of expediency, but because we all—all of us in this universe—start from there, from the matters of concern in which we find ourselves. Which means from our relations: it is there that we can find our commonalities. From such a start we might build a more common world.

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[19] On this kind of 'cosmopolitics,' see the chapter in this volume by Adam Robbert and Sam Mickey; and also Adrian Ivakhiv (2012) "Religious (re-)turns in the wake of global nature: toward a cosmopolitics."

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