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An Integral Approach to Philosophy of Nature

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Abstract

Quantum physicists and quantum biologists enjoy a mathematically-inspired romance with the wonders of nature at the quantum level. Recognizing the romance of mathematics and the quantum-to-cosmic level relational energetics of Nature can lead to a more integral, romantic, and even embodied phenomenology of the intelligence inherent within Nature's relational and embodied energies. Approaching this quantum nature of Nature from the more romantic, wholistic views of the right hemisphere of the brain, rather than from the fragmenting views of the left hemisphere of the brain, one can begin to discover the self-organizing abilities of the energies of Nature at all levels of scale. In far from equilibrium states, energy is available for systems to self-organize at all scales, from a single particle on up to galaxies. This integral and romantic view of Nature from quantum scales to cosmic scales reveals a fractal intelligence inherent within all levels of the self-organizing systems of Nature. Indeed, Nature is self-organizing, or Self-organizing at all levels of scale. Everything in Nature occurs as a system, from quantum wave functions to the Universe as a whole. This integral systems philosophy recognizes Nature not as some "thing" that has been intelligently designed, but as a living cosmos embodying intelligence in all levels of being, such that Nature is intelligent. Ecosystems are the perfect example of the expression of Nature's self-organizing intelligence, for if ecosystems were not wise, collapse of ecosystems would have been the norm, rather than the exception for hundreds of millions of years on Earth. Moreover, the inherent vibratory "felt states" of Nature can lead to an embodied phenomenology of the self-organizing wisdom of Nature.

Keywords: Consciousness Studies, Cosmology, Integral Philosophy, Intelligent Universe, Nature as Self-Organizing, Philosophy of Nature, Quantum, Romanticism, Self-organizing systems, Systems Philosophy

An Integral Approach to Philosophy of Nature

Brian Swimme, professor emeritus at the California Institute of Integral Studies, teaches that we are the Universe being aware of itself (Swimme & Tucker, 2011). As Swimme and Thomas Berry together write: "The universe, rather than existing in an inert objective way, is a mutually evocative reality. Scientific knowledge in a developmental universe … is essentially self-knowledge, where self is taken as referring to the complex, multiform system of the universe" (Swimme & Berry, 1992, p. 39).

Indeed, an integral romance between philosophers, scientists, and nature arises when we remember that we human beings are an integral and resonant part of a larger, universal whole called Nature. Human beings exist not as independent distinctive subjects in a merely objective, material world; rather, human beings exist as interdependent subjects systemically interwoven within an intersubjective world which gives rise to human ways of knowing. Romance arises when we rediscover that we are made of whatever nature is made of, and that nature is made of what we are made of. There is no division between who we are and *who* nature is.

If I stated that there is no division between who we are and *what* Nature is, the Integral romance would already be dead. As Brian Swimme and Thomas Berry write: "the universe is a communion of subjects rather than a collection of objects" (Swimme & Berry, 1992, p. 243).

How, then, do we move away from a philosophy in which scientistic empiricism *excludes* everything from reality *except* matter itself, viewing that matter as something dead, separated into quantifiable units of utilitarian objects that humans therefore seem to feel entitled to exploit? (See, for instance, Merchant, 2020, pp. 35, 43, 50). How do we move from utilitarian

materialism to romantic interrelationship with the cosmos as alive, whole, and perhaps even conscious and sacred?

Professor Jeffrey Kripal relates accounts of the many scientists and medical professionals who have experienced what Kripal calls a "flip," in life-changing events such as near-death experiences. Kripal describes these "flips" as "modern conversion stories, conversions not to this or that religion, but to a new cosmic outlook in which mind or consciousness is primary" (Kripal, 2019, p. 58).

While we may not all experience a "flip," in order to be able to engage in an integral romance with Nature, humans definitely need to activate the right hemisphere of our brains. As British psychiatrist Iaian McGilchrist makes evident in his book, *The Matter with Things*, our left hemispheres are unlikely to engage in any sort of romance with nature, quantum or otherwise. According to McGilchrist, the left-brain hemisphere sees everything as separate objects in freeze-frame clips, and as dead and disconnected, while the right hemisphere sees everything as alive, as one whole with interconnected parts, flowing in processual durations (McGilchrist, 2021, pp. 128-9, 154-5, 159-160, 161-2, 177, 180).

What if we could think philosophically through the right hemisphere?

An Integral Approach to Philosophy of Nature

My goal here is not necessarily to convince you of anything; rather, my goal is to invite you to engage in an embodied and integral philosophical inquiry with me, by romantically attending to the poetic wonders and beauties of mind in Nature. My role is to philosophize as a grandmother, by including all the humanizing aspects of Nature that philosophy leaves out when it is devoid of the romance of inseparably being human-Nature.

So, I am going to ask you to engage in a Socratic-turned-grandmotherly "what-if" approach to philosophy, beginning with: what if Brian Swimme is correct that we are the Universe being aware of itself?

How could we know? Any romantic philosophy entails an integral philosophy, and integral philosophies must necessarily include embodied ways of knowing. Embodied phenomenology enables us to connect ourselves as conscious, embodied beings with the ontological and epistemological aspects of a romantically integral philosophy. What I am proposing is that we engage in a moment of embodied phenomenology to connect our right brain hemispheres and to extend our awareness beyond the liminal limits of the left-hemisphere analysis that is dominant in philosophy as rational discourse.

What if, in experiencing embodied phenomenology, we might sense ourselves as the Universe being aware of itself, at least in a small way? To do just that, I would like to invite you, if you will, please, to pay attention to your breathing – just be aware of breathing in. Feel the air going in through your nostrils, then feel the air moving outwards through your nostrils. Feel the rising and falling of your chest or abdomen.

As you breathe, you are breathing in molecules of air, but essentially, you are breathing in Nature. What if you are one with the whole Universe, breathing in and out what used to be stars?

Breathing in and out the particles, breathing in and out the quantum fields, as one with the particles, as one with the quantum fields. What if you are one with Nature as probability waves flowing in continuously changing patterns of probabilities in quantum fields? Are we really separate anymore?

What if we could know the nature of Nature as Being Itself? What we are breathing in is whatever or whoever Nature is made of, fundamental Being Itself. As you breathe in Being Itself

as the Nature of the Universe, is that fundamental Being of Nature indifferent? Is the fundamental Being of Nature hostile? Is the fundamental Being of Nature friendly? Whatever you believe the fundamental Being of Nature is, friendly, indifferent, hostile, you are breathing it into yourself, allowing that fundamental Being of Nature to become who you are.

What if we could easily decide whether the fundamental Being of Nature is friendly, indifferent, or hostile? What if we could make that decision with our hearts, minds, souls and bodies, by continuing to breath in Being Itself until we felt how it really feels for us on an ongoing basis? (See, for instance, IONS Team & Richardson, 2013).

As part of my dissertation, I researched whether individuals can feel the emotions of other human beings spread out as fields of the subtle energy of consciousness around them. As discussed in the online blog of the Institute of Noetic Sciences, I found that, out of 111 respondents, 96.1% reported having felt the "excitement in the air" at a sporting event or musical concert. Likewise, 96.1% of respondents affirmed having felt the "tension in the air" as a group of people got into conflict. Similarly, 89.1% of people reported being able to feel the uncomfortable energy coming from another person who was either very anxious or very angry. Lastly, 92.2% of respondents reported having felt the love coming from someone else and the love shared between the two of them (IONS Team & Richardson, 2023).

What if we can feel the subtle energies of consciousness in Nature, as they feel very different according to where we find ourselves, such as on mountaintops, in fields, in forests, at beaches, and while sailing upon windswept waters? What if that feeling of Nature is like a

quantum level Whiteheadian prehension?[1] In other words, what if felt states constitute the true nature of Whiteheadian prehensions as each process-relational entity unifies the foregoing organismic nature of the entire Universe in each actual occasion? (Whitehead, 1929, pp. 193-4, 308).

As part of Nature being aware of itself, what if we are not just epiphenomenally or emergently different from, or supposedly more *conscious* than Nature, but perhaps literally one with Nature itself, such that consciousness in Nature gives rise to the quantum-level epigenesis of consciousness in human brains?

Afterall, what is the difference between the particles that make up you and me and the particles that make up a rock or a tree? All these particles are currently understood to be excitations in quantum fields, so on this level, too, we are Nature being quantum fields that permeate the entire Universe. Given that we are inseparable from these quantum fields, when we separate out "mind per se" as well as our own minds, are we really justified in doing so?

Indeed, our brain waves and the quantum waves that flow throughout the universe may be intersecting in each moment – as if we are perhaps, flowing and knowing with the Universe and *as* the Universe in fractal patterns of consciousness flowing in a cosmic Lorenz-attractor state space. (Lahey, 2023, and Idris, *et. al.*, 2021).

In his essay, "*The Unreasonable Effectiveness of Mathematics*," notable physicist Eugene Wigner made three very relevant points. First, Wigner writes: "The first point is that the

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[1] In my in-progress dissertation, I argue that one scientific experiment represents a particle's act of Whiteheadian prehension as physicists created a "metaphorical barrier" behind a particle by inverting the phase of an electrical field, thus enabling the particle to move up a "spiral staircase" of varying levels of potential in the electric field. The particle, I argue, prehended the phase changes even though there was no energy interchange, such that the prehension of the phase changes enabled the particle to raise its own potential. Here, prehension might be equated with accessing information. See: Cartlidge, Edwin. 2010. "Information converted to energy," *Physics World*, 19 November 2010. https://physicsworld.com/a/information-converted-to-energy/.

enormous usefulness of mathematics in the natural sciences is something bordering on the mysterious and that there is no rational explanation for it." This statement reminds us that rationality alone cannot help us fully grasp the true underlying Nature of reality. Wigner also observes: "The world around us is of baffling complexity and the most obvious fact about it is that we cannot predict the future. … It is, as Schrödinger has remarked, a miracle that in spite of the baffling complexity of the world, certain regularities in the events could be discovered." In other words, there is an order, but that order is dwarfed by the complexity that prohibits our ability to predict the future with our rational minds alone. Third, Wigner remarks: "the point which is most significant in the present context is that all these laws of nature contain, in even their remotest consequences, only a small part of our knowledge of the inanimate world" (Wigner, 1959, pp. 2, 4, 5).

Wigner's points all serve to remind us that our rational minds alone cannot fully grasp Nature's full and true Nature. What if we can more fully know Nature with our hearts, our bodies, and our souls, as well as our rational minds. In an integral philosophy, we engage all human ways of knowing, or we limit our access to truth. What good is philosophy, if it is not wise, integral, and true?

Mind in Humans and Mind in Nature

The next "what if" I would like to share with you concerns the possible presence of mind in nature. For example, what if I could convince you that there is a method by which we could recognize that 1 + 2 = 4? I know, that does not make sense to the rational mind, but in our Swimmean theory that we are the Universe being aware of itself, this just might make sense.

Every time a mathematician, physicist, or other scientist employs mathematical formalisms to describe what is happening in Nature, they are not only engaging in a

mathematical romance with nature, but they are also using their minds. The problem arises when they leave their minds out of the equation. That is why, at an unperceived level, 1 + 2 = 4: because the scientist or mathematician's mind needs to be present in every equation.

What if we acknowledge that not only have we left the scientist's mind out of the equation, but when studying Nature, we have also left mind out of Nature? If we are Nature, and we not only habitually leave our mind out of our mathematical studies of Nature, are we not also equally unaware of the mind of Nature which we also habitually leave out?

Just as human beings require rigorous intellect to understand the equations involved in describing Nature at the quantum and cosmological levels, what if nature also requires an incredible presence of mind to formulate those relationships mathematically?

What if that mathematically intelligent mind in Nature also permeates the quantum fields? If we remember Wigner's comments, then we need to remember that our rational minds alone cannot answer that question.

What if a flower may be unaware of the presence of mind that centers its five petals around a circular core, perfectly sizing and placing the petals in a harmonious pattern that, to us mere mortals, appears truly beautiful? If *we* have to be intelligent to understand the geometry and mathematics of petals arranged in a flower, doesn't Nature have to be intelligent to produce such order?

I am in no way suggesting intelligent design from outside Nature. I am wondering if we can perceive intelligence within Nature, permeating it all the time, even though we have ignored Nature's intelligence just as we have ignored our own minds when doing science or math.

Mathematical and Quantum Romance

Scientists engage in a romance with Nature as they discover that their brilliant

mathematical formalisms match Nature's inherently mathematical ways of ordering itself, to the degree that this relationship embodies Wigner's "unreasonable effectiveness" (Wigner, 1959, p. 2). The integral philosophical romance lies in the adventure of discovery that Nature, at the quantum level, is creative and mysterious enough that mathematics seemingly opens up numerous theoretical – and thus metaphorical – possibilities for understanding how Nature self-organizes.

These theories often predict or describe different aspects of the quantum and cosmological realms in very different languages as well as different mathematical approaches: from quantum field theory to string theory to quantum foam, to the it-from-qubit theory in which particles become holograms, to amplitudeology with its Platonic Ideal of geometric objects called amplituhedrons that directly explain particle-scattering distributions without drawing on the mathematics of quantum fields. (Van Raamsdonk, 2020).

Recent theories in string theory, now known as M-Theory, are now giving rise to the mysterious idea that dark matter may exist in other dimensions. As mysterious – and even mystical – as this idea seems, apparently part of the predictions are finally testable, which has previously been considered impossible with string theory (Nadi, 2024). Nonetheless, many physicists have clung tenaciously to string theory because of the beauty of its mathematics. As astrophysicist Geraint Lewis of the University of Sydney observes: "string theorists remain undaunted. Even if we cannot test the theory, they say, we should continue our efforts on M-theory as the idea is so beautiful, it just cannot be wrong. With a bit more effort, they say, we will hold in our hands the theory to describe everything" (Lewis, 2019).

Given this complexity by which Nature inspires numerous theoretical-metaphorical approaches to its essence, what if Nature all throughout itself is intelligent, in ways both similar

and different than we are? What if you or I tried to build a nest to hold eggs? Birds' nests often look so expertly woven that I must ask: do birds really manage that by instinct? If so, what is instinct? If it is inherited, then DNA or primitive cells must somehow carry patterns of intelligence that lead to these species-specific patterned behaviors that appear to serve teleological purposes of efficiency, effectiveness, endurance, and species survival. What if these patterned behaviors are therefore not merely mechanistically copied but romantically evolved and embodied in all living beings' love for life such that even nests can become not only "tools" for survival, but also beautiful?

The Fractal Beauty and Intelligence of Nature

What if we look at fractals? Benoit Mandelbrot discovered and named these incredibly fascinating and beautiful self-repeating mathematically-ordered patterns in Nature that all express forms of fractal geometry (*Wikipedia*, 2024). A moment's contemplation of the Mandelbrot Set (Mathigon, 2020) and we can hardly help but feel inspired by the remarkable beauty of these infinitely repeating mathematical patterns expressed in Nature at all levels of scale.

Whether we observe a coastline, or the branches of a tree, or the branching of blood vessels, or the branching of a river delta, we are observing the beauty, intricacy, and fractional dimensional ordering of Nature at all levels of scale. Can Nature really accomplish such intricate fractal geometry without mind infusing its ways of being? It took a highly intelligent, mathematically-trained man with a modern computer to discover the intricacies and mathematical equations of fractals to discover these self-repeating patterns. What if Nature requires mind in order to create them?

Conclusion: The Self-Organizing Intelligent Systems of Nature

Lastly, what if the self-organizing tendencies of Nature truly speak to an inherent consciousness capable of self-organizing at all levels of scale? Whenever and wherever environments in Nature exist in non-equilibrium dynamics, they receive an influx of energy, which scientists have observed empowers them to self-organize as systems. From the theory of electrons as solitons that self-organize via their Coulomb self-energy (Oleinik, 1997, p. 262),[2] to observations of self-organization within cells and among cells (Kurakin, 2011), to observing that ecosystems and even Earth's biosphere constitute self-organizing systems (Levin, 2005), to theorizing that galaxies and the entire Universe is self-organizing (Kurakin, 2011), to the idea that spacetime itself may be self-organizing (Ambjørn, *et. al*. 2008), scientists have observed the self-organizing, or autopoietic tendencies of Nature at all levels of scales.

If self-organization is fractal, that is, self-repeating at all levels of scale, then is there just one conscious Self that self-organizes at all levels of the Universe? What if a romantic integral philosophy ultimately requires a quest to discover ourselves as the One Self everywhere in Nature, from the subquantum level to the human level, to the cosmic level, and beyond? What if we become one with Nature's One Self when, in our embodied human-Nature, we experience felt states of awe and wonder, profound peace, heartwarming love, and boundless bliss?

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