

Why Metaphysics Matters

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Abstract: A lively discussion about why metaphysics matters in our current Metamodern era. I derive a process model of metaphysics based on Whiteheadian process philosophy. I interweave Gebser's notion of the mental structure of consciousness into a deeper understanding of the difference between the up-ward synthetic-dialectic of the western mind, and the downward, deconstructive dialectic in the eastern approach. I show how Hartshorne's process metaphysics resolved both eastern and western dilemmas around the ultimate categories. I end with a description of the problem situation we have of escalating epistemic complexity, and how adopting a process metaphysical *praxis* can help us renew our ways of meeting the complexity of the world.

Keywords: Complexity science, Dogen, Gebser, hyperobjects, integral consciousness, Nagarjuna, overmining, process philosophy, synthetic-dialectic, Whitehead.

Metaphysics is all about Describing Water to Fish

Metaphysics has acquired a bad reputation. I want to show you why metaphysics matters. Metaphysics means different things to different people. In the history of philosophy it has become somewhat a catch-all for all types of meta-philosophizing. Metaphysics can be reclaimed by examining its roots in mathematics and geometry – which no one would argue don't matter to physics. Theoretical mathematicians, creating mathematical frameworks that are built up in rigorously logical ways, through complex rules of logic and translation, are the purest metaphysicians of all. Metaphysics in this regard is the study of, understanding of, and creation of conceptual frameworks that can function in a variety of ways: for beauty, for usefulness, for meaning-making, for deconstructing limiting frameworks, for experimenting, for trying something new just for the hell of it, for creating new languages such as writing computer codes or “inventing” non-Euclidian geometry, for creating fantasy worlds in literature or virtual reality.

Metaphysics gets into trouble when it tries to make truth claims about the world. No true metaphysician would make such claims, because the pre-requisite of a valid metaphysics, is that it understands what underlies all truth claims, namely a cognitive-conceptual architecture, i.e., a metaphysical framework. While it may not be possible for the philosopher to reveal the contours of their framework, (in other words, think themselves out of their metaphysical box), a good metaphysician reminds themselves that there is one, beyond the horizons of their capacity to think.

The goal of a metaphysics, contemporarily, is to sew together what Kant's metaphysics tore apart: the domains of epistemology and ontology. Here I use the simple working definitions that “Epistemology concerns itself with how we know about reality,” and “Ontology concerns itself

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with reality.” Kant pointed to the limitations of the human mind, language, thought and existential conditions as barriers to knowing the world *as it really is*. He highlighted certain rules of logic, science and judgment that could serve as accurate correspondences to what is real. Ontology was thereafter whisked away from the discourses of theology and theosophy and made subservient to the rules and methodologies of scientific reasoning. Once the post-modern mind began to “see” that the scientific enterprise itself could also be contextualized by deconstructive critique, the very idea of an ontologically real truth was abandoned. The philosopher Roy Bhaskar (2002, 2009) created an entire new philosophy called *Critical Realism* to redress the postmodern overcorrection. With the word “critical” Bhaskar preserved the deconstructive act of metaphysical examination. With the word “realism” Bhaskar restored the belief in levels of reality that exist independent of human reasoning, positing that there is an ontologically real domain of existence that is not dependent upon epistemological claims. Bhaskar emphasized that this ontologically independent domain is *available to examination* through methods of reasoning and knowing that generate epistemologically valid truths. Yet, even the epistemologically untapped domain of the real, persistently calls us, to listen at levels deeper than the reasoning mind. This untapped domain, calls to us with what Bhaskar called the *alethic truth*. The alethic truth is not an epistemologically known or empirically verifiable truth. Rather it discloses itself through our own existential condition, which is an impulse to greater degrees of freedom. This impulse realizes greater freedoms by throwing off the shackles of slavery and bondage, but also, and perhaps more importantly, by acts of pure creation, by presencing what is absent, as, for example, in Charles Eisenstein’s (2013) words, “creating the more beautiful world our hearts know is possible.”²

Critical Realism plays an important role in healing the rift between epistemology and ontology. But what of metaphysics? When Bhaskar says that philosophy should “under-labor” for science, he comes close to describing a new metaphysical orientation. Under-laboring means revealing the boundary conditions in which certain scientific truths are (and are not) true. If we do a simple empirical test, let’s say, by dropping a feather and a stone from a tower at precisely the same time, our naïve results might suggest that the “falling force” pulls at selective speeds, depending on the substance. We might conclude that the “falling force” has greater affection for rocks over feathers; or we might conclude that the speed of gravity depends upon the mass of the object. To think of gravity, as Einstein did, as *accelerating inertial frames*, is an act of pure metaphysical innovation. As such, Einstein argued, the feather and the stone fall at the same velocity and reach the ground at the same time. The difference we see in our experiments are due to the different effects of air resistance. Einstein’s new metaphysics, had such explanatory power, that science switched to his position. Only recently were we able to actually observe a feather and a stone falling (to the earth) at the same velocity and reaching ground at precisely the same time.³

Sir Isaac Newton’s *Laws of Motion* constitute a set of metaphysical assumptions that prove to be helpful. Still, they lock us into a certain frame of reference that limits what can be known about the world. Newton’s metaphysics claims that “an object in motion will stay in motion unless an external force is applied to it.” In Newton’s metaphysics, there is no place for self-animated objects. We are comfortable, then, with not including living beings like ourselves. But what of electrons moving in a copper wire wrapped around a magnet? Here we don’t need a third term that identifies the external force. The objects *themselves* are participating in this dance of movement.

² Similarly Sloterdijk speaks of “vertical tension” that propels us toward future possibilities.

³ <https://www.youtube.com/watch?v=E43-CfukEgs>

We can *choose* to separate the objects and the “forces” that move them, in much the way that Georg Ohm’s equations do to describe laws of electricity. Ohm conceived of electricity as “currents” just like currents in a stream. This is an act of metaphorical imagination, which releases the complexity of the equations he needed to describe certain fixed relationships between voltage (intensity) and resistance. What if, instead of creating a third term like “current” Ohm thought of the action of electrons as *population dynamics of self-organizing systems*? There would be no need for a third term. What he viewed as “currents” would become, instead, the “emergent patterns” of complex self-organizing dynamics. What I want to point out here is that good metaphysics creates greater clarity by *improving the precision of the description* of phenomena. Mathematics is a language of great descriptive precision. This is the reason why Charles Hartshorne (1983) considered mathematics as the purest form of metaphysics.

Another alternative would be to switch to a metaphysics of self-animated form.⁴ Einstein moved in this direction when he reimagined gravity not as an external force “pulling” on objects (mass) but rather, as something that mass (objects) *does*. Two objects dance around each other, and self-organize a familiar pattern we call “acceleration due to the force of gravity.” Yet, with a metaphysics of self-animation, we have no need for the third term “force of gravity.” I first discovered this query in high school when we learned about electricity. Wrap a copper wire around a magnet, and voila! you get electric current. In the laboratory I would shake my head and ask “But where does the electricity come from?” This persistent need for a third term is a necessary consequence of a Newtonian metaphysics of inanimate objects. It’s the *metaphysics* that cries out for a third term. You can experience this yourself by watching *this video* of the world’s simplest electric train. In similar fashion, the term “ether” was posited as a substance that propagated the light wave, in the same way that sound is the propagation of air waves. Hence, there is no sound in the vacuum of space. We now think of light as a wave form unto itself, capable of propagating through space without a theory of an ether. In the procession of metaphysical vies, third terms like “ether” “gravity” and “electric current,” are both presented and absented at different times.⁵

⁴ As it turns out, form can be considered “self-animated” because “animation” (the energy-momentum tensor) is what now quantifies the amount of matter, according to contemporary Quantum Field Theory. As Richard Campbell (2015) explains:

To a great extent, the mass of an atom is simply the sum of the masses of its constituent protons, neutrons, and electrons, but their mass in turn is due to the binding energy of quarks within the protons and neutrons (the generation of mass is thought to be the role of the recently confirmed Higgs boson). In other words, most of what composes the ‘mass’ of ordinary matter is due to the energy generated by interactions within the quantum fields. ... So in that context, a more general view is usually taken that it is not mass, but the energy-momentum tensor which quantifies the amount of matter. (p. 48) [emphasis mine]

⁵ For an fascinating paper on the intersection of Nagarjuna and Quantum science, see David Ritz Finkelstein’s *Emptiness and Relativity* which can be accessed here

<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.68.4935&rep=rep1&type=pdf>

Finkelstein rejects third terms in science, which he calls “idols.” For example, he writes:

In physical theories so far there have always been absolutes, vestiges of being, essences. Indeed, Einstein first called his brain-child a theory of invariants, not of relativity. What remains now that is absolute? What must we empty next? As we have seen, we cannot always detect important absolutes easily from within a theory. By never moving, idols tend to become invisible. We must step outside the theory and examine both what physicists say and what they do, and especially to the connection between these two modes of action, the semantics of the theory, to discover what absolutes are tacitly

This one metaphysical revision alone would have enormous impact for the reality we come to believe in. It would be a re-enchanted reality, where every object, at every scale, was participating with every other object, at all different scales. It would align itself with what Graham Harvey (2014) calls Neo-animism. Suddenly everything would be living and experiencing! There is actually a term for this approach – pan-experientialism. It is a term used to describe the reality that was derived by Alfred North Whitehead’s (1979) process metaphysics. Whitehead, however, was no fool. He understood that he was making things up, creating entirely new ways of thinking and entertaining a really big thought experiment about “reality.” This uniquely philosophical practice is called *speculative ontology*, and Whitehead was careful in his admonitions to those who might swallow the hook of reification while nibbling on the bait of imaginative reasoning. Right up front in his introduction to his magnum opus, *Process and Reality*, he cautions us

There remains in the final reflection, how shallow, how puny, and imperfect are efforts to sound the depths in the nature of things. In philosophical discussion, the merest hint of dogmatic certainty as to finality of statement, is an exhibition of folly. (p. xiv)

Whitehead took great pains to outline a practical methodology for speculative ontology. For him, speculative ontology means to form a theory of reality, with a freely acting, imaginative mind. Taking speculative ontology as a *serious philosophical pursuit* means the possibility of disclosing worlds that could be possible, which otherwise do not seem possible, given the set of constraints on the metaphysics of ontology conventional to one’s domain, culture and/or milieu.

Whitehead believed that speculative philosophy could be productive of important, undiscovered knowledge if one “endeavor[ed] to frame a coherent, logical, necessary system of general ideas in terms of which every element of our experience [could] be interpreted” (p. 5). He thought that speculative philosophy, if done right, could be a work-around in lieu of the logical positivists’ efforts to found a metaphysics of reason based on strict categories of logic and mathematics. Instead, Whitehead emphasized imagination, intuition, experience and essence. “Here is what we have in our intuition and experience,” he might have spoken in a casual conversation. “How can we use our imagination to derive a theory of essence that accounts for them?” He could have said, without any special inflection, “Suppose we assume we know nothing about reality. Yet here it is, this existence. It holds together. There must be some essential necessities. And here it is, this inquiring mind, these feelings of curiosity and intimacy. They must be adequate and applicable to them.” Writing alongside the great logical positivists, Whitehead was adamant that useful metaphysical principles were not to be captured by logical reasoning, but rather, through flashes of insight that propagated through “the play of free imagination, controlled by the requirements of coherence and logic” (p. 5). This, “true method of discovery” he likened to the flight of an airplane: “It starts from the ground of particular observations; it makes a flight into thin air of imaginative generalization; and it again lands for renewed observation rendered acute by rational interpretation” (p. 5).

assumed. ... When the question arose whether concepts like a variable matter-space-time law unity had ever been expressed, Nagarjuna’s verses on the Madhyamika (the Middle Way) were cited. From a recent translation of a translation [Nagarjuna (1995)], it seems that they can indeed be read as saying that space, time, matter and causation are relative, with no permanent essence, and that this is inferred from the very fact that we perceive them.

Whitehead contended that the reason why this method of “imaginative rationalization” works, where other methods fail, is due to the fact that influences (what he called factors) that are present yet not presently observed, emerge through the free play of imagination. Here he was anticipating Bhaskar’s notion of how *absence* presences itself through the alethic truth. What was imaginative rationalization for Whitehead, Bhaskar called “retroduction,” echoing Charles Sander’s Peirce’s notion of abduction.⁶ Whitehead writes of the power of imagination to “supply what the differences which the direct observation lacks.” And yet while Bhaskar appeals to a subtle reductionism in his notions of the real, Whitehead remains firmly de-ontological, by staying within the practical “adequacies” of the human imagination and its participation in everyday ordinary experience: “It [the imagination] can even play with inconsistency; and can thus throw light on the consistent, and persistent, elements in experience by comparison with what in imagination is inconsistent with them” (p. 5).

The power of Whitehead, over Peirce and Bhaskar, is that he makes his imagination transparent to his philosophical enterprise. By contrast, Peirce was reluctant to “pierce through” his metaphysical veil and realize that he was examining the features of his own mind. There is a great quote from the movie series “True Detective” that illustrates to me what being around Peirce must have been like. The detective Rustin Cohle, (played by Matthew McConaughey), has episodes of “otherworldly” perception and intuition. In one scene, Cohle says that during these episodes of deep *intuitive listening*, there were “times when I thought I was main-lining the secret truth of the universe.”⁷ This is the overall impression that Peirce can leave us with. Similarly, reading Bhaskar, especially when he is writing about meta-Reality, the astute reader (the reader wearing their metaphysical decoding ring) can discern a subtle residue of the realist’s ontological reductionism to his otherwise imaginative and creative foray into speculative philosophy. The point I want to emphasize here, is the truth about all metaphysical truths: at the end of the day, what metaphysics describes is the architecture of the most fundamental interface where mind and raw reality participate – the finely grained texture of our imagination and participation.

To live in a post-metaphysical world, does not mean to throw the baby out with the bathwater. A post-metaphysical orientation asserts that there is always 1) either an implicit or explicit ontology operating in any truth claim and 2) either a transparent or hidden metaphysical framework that is foundational to that ontology. Metaphysics is like mining – the deeper you dig, the more gold you’re likely to find. For the metaphysician “gold digging” is all about looking for what is implicitly functioning but not yet explicitly known, and the ambitious gold digger wants also to reveal the hidden metaphysical framework deep at the core of any ontology. Whitehead’s speculative philosophy, his process ontology of reality, proved to be a gold mine for a radical new metaphysical excavation. By situating his ontological musings in a process metaphysics of becoming, Whitehead’s process ontology became the bedrock for a radically new kind of process metaphysics. But before we go further, we need to take a look at the relationship between metaphysics and existence.

⁶ Burch, Robert, "Charles Sanders Peirce", The Stanford Encyclopedia of Philosophy (Winter 2018 Edition), Edward N. Zalta (ed.), URL <https://plato.stanford.edu/archives/win2018/entries/peirce/>

⁷ <https://www.youtube.com/watch?v=seu6g2f7aec>

The Matrix of Existence

I teach a masters course in consciousness studies at The Graduate Institute. In the first weekend I ask the cohort to agree on a Venn Diagram to illustrate the difference between what is “real” and what “exists” (or alternately, between “reality” and “existence.” Invariably, people agree that existence is the larger set, and within it is a subset called “reality.” It is reasonable common sense to see that some “things that exist” are not “real.” Yet they never turn that argument upside down and say that there are things that are real that do not exist. Following Whitehead, a process philosopher might say just that, since potentials may be real potentials but not (yet) exist where “to exist” means to be “actualized” (become what Whitehead called an “actual” occasion). In process metaphysics, real potentials differ from Bhaskar’s *alethic truths*, because Bhaskar’s subtle ontological reductionism suggest that *alethic truths actually exist*, but in process metaphysics, *real potentials* do not (yet) exist, and maybe never actualize. What is true in both cases, is that the *alethic truth* and the *real potential* both make a causal contribution to what is eventually becomes either 1) *known* in the sense of epistemologically verifiable truth or 2) *actual* in the sense of an actualized existing occasion.⁸ To simplify the field, it might be useful to look at the following diagram which I call the *Matrix of Existence*.

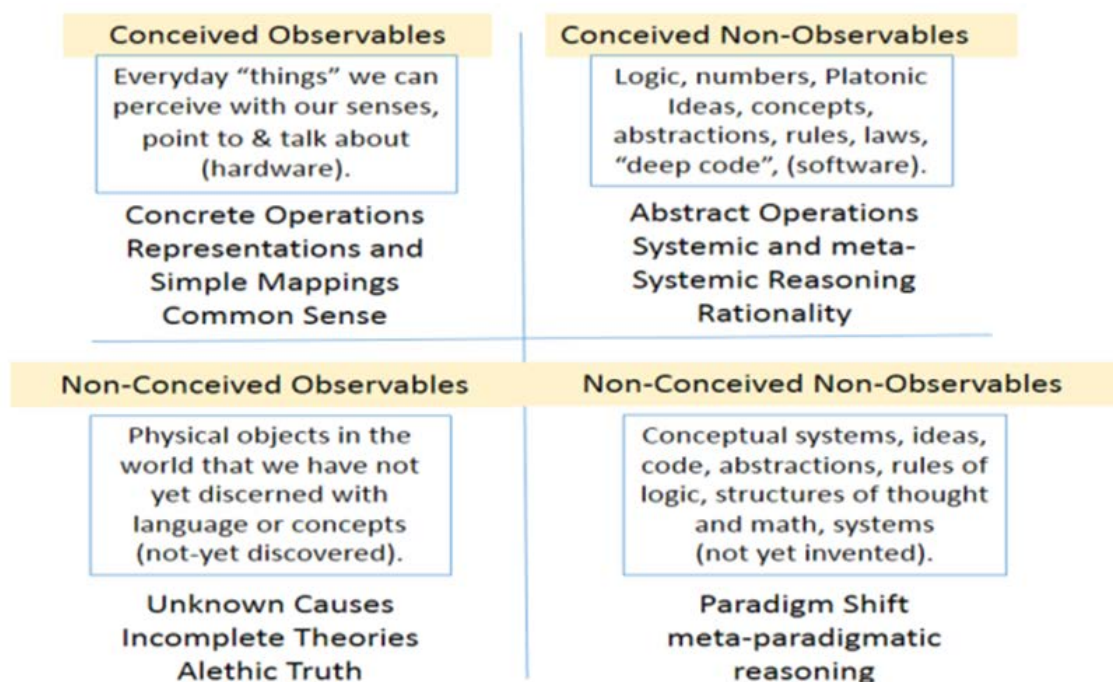


Figure 1. The Matrix of Existence

⁸ Bhaskar most probably intuited what process metaphysics would make more explicit, and what complexity science would eventually re-imagine as *dispositional states of a system*. The dispositional state of a system entails all the possible future states (weighted differently) as they “juggle their way to a final configuration” in the next adjacent moment (solving problems, as it were, much like the tiling problem in crystallography). In this prior state, potentials are causally implicated in the “deliberation of the final configuration” but neither necessarily realized as actuals (actual causes) or sustained as future potentials. Therefore, in complexity science, as in process philosophy, “origin” or “sources” may have only existed in potential, and

This matrix says that everything that either *actually* exists or can *possibly* exist, fits into one of four locations. Here existence is not a binary, but a kind of spectrum, from ordinary observable objects (where here “observable” means perceivable through our senses) to forces which we cannot observe, but can infer with the aid of conceptual abstractions, technological facility and methodological discipline. The matrix also includes forces we can imagine in the abstract but have no means of validating them, as well as objects and forces we do not see because we have no technology or conceptual apparatus to reveal them. Finally, the most subtle category in the matrix concerns abstractions and conceptions, logics and mathematics, which have not (yet) been conceived. As long as metaphysics sticks to the right hand quadrants, it is safe from the post-modern critique. Kant described the “stuff” in the RH quadrants as “transcendentalia” – a word whose meaning runs close to Russ Cohle’s description of “mainlining the secret truths of the universe.” Henceforward, we were left with the uncanny prospect of “mapping” instead of inhabiting territories as the number one project of human knowledge building. On the other hand, the post-modernist has completely eliminated the “stuff” in the left-hand quadrants – namely, the concrete objects that exist the same as they do, with or without human conceptualization. Henceforward from *there*, curiously, paradoxically, and rather humorously, the post-modernists have anchored themselves firmly in the RH world of Kant’s transcendentalia and the metaphysics that they so strongly deny. Gotta love that twist!

The matrix of existence helps us define the “existential status” of “things.” It says, quite naively, that all this stuff really exists, but there is a range or field of existence – some of which is concrete and obvious (the UL), some of which is more subtle and less obvious, some of which is so subtle that it needs more “help”, conceptually and imaginatively to bring it into awareness, and some of which is unknown, but none-the-less part of what is “really existent” because everything is mutually interdependent (all causes, conditions and effects are mutually arising), and some of this stuff is so very subtle, that it exists in potential only.

Depending on who you are, and how you relate to different “stuff”, you will assign more or less “existence” to them. Some mathematicians for example, think numbers are really very real, so that numbers, which are UR quadrant stuff, would be assigned a much higher level of existence by them than by your average textile worker. For the mathematician, numbers are more like the territory, but for the textile worker, they are more like the map. Plato placed a high level of existence on ideas, that’s why he capitalized the word. Plotinus set out to create a taxonomy of the Ideas, a project he construed as discovering the language of God. His project was, of course, a great exercise of pure metaphysical creation. A fun parlor game might be to sit with your friends and parse out what fits where in the matrix of existence, and grade them according to the status of existence you would give them. You might discover that metaphysics not only **matters**, but that it can be fun, and can reveal the rich multi-layered textures in the spectrum of existence. Which, actually, is what metaphysics is for.

as a result the present is not *even theoretically* traceable to something like a past origin. Rather, “origin” is in the preservation of the protocol for potentials to advance into the future, whether as realized actuals, realized effects or as “nothing at all.” Given this, it can be said, that while both prior potentials and future actuals are *infinite*, they are *not exhaustible*, since some potentials and some actuals are eliminated from the infinite set. For example, there was a time when there were no elephants, and there may be a time when there are no longer elephants, but there will never be a time when there were never any elephants. There is a cosmological moral imperative to this “fact.”

When we add a process inquiry to the question of metaphysics, we get into some really tricky territory. How, for example, does stuff move through the levels of existence? How do subtle experiences become solid objects that are easily shared? Most people would agree that Leeuwenhoek *discovered* microorganisms, and that Galileo *discovered* the moons of Jupiter. We are comfortable with the idea that microorganisms and Jupiter's moons were always already there, except we just didn't have the means to observe them. Their existence depended upon particular inventions – microscopes and telescopes. Now consider the atom. Before electron photography was invented, direct observation of atoms was impossible. But the atom was “discovered” decades prior to that invention. In the case of the atom, discovery and invention are more closely intertwined. At first, atoms were partially a discovery, but mostly an experimental and conceptual invention that was ongoing for two centuries! and involved at least nine significant scientific advances.⁹

Where do we place stuff like “causally effective illusions?” – that, like the rope that is mistaken for a snake, is an observable (rope) improperly entangled within a mis-conception (snake)? What is the relationship between the left and right quadrants, or the upper and lower ones? What is the relationship between invention (as a product of imaginative inquiry and creative response) and discovery (as a product of refined search and discernment)? If it suits you more to say “we invent new ways of discovering,” you are subtly biasing an ontologically real reality, which is a subtle type of Realism that is situated mostly in the LH quadrants. On the other hand, if you are more inclined to say “we discover new ways to invent,” you are subtly positing the realm of ideas and logos as ontologically existent – a subtle form of Idealism that is situated mostly in the RH quadrants. These are all metaphysical considerations and thinking through them illuminates how embodied minds construct thought.

But do embodied minds construct reality, as the postmodernists claim? This poses a metaphysical challenge. First, I would like to take a very close look at the word “construct.” Taking a closer look at the ordinary “naïve” meaning of a word is often a good first step in taking up a metaphysical challenge. It tells us that we can trust words because they evolved without top-down planning. This means simple words help us escape the kinds of metaphysical priming that makes meaning-making so suspect. Later in this article I will explain that making language more precise is one of the four phases of metaphysical work, and this is why the language of science is mathematics, which is a pure form of metaphysical precision. For now, let's stick with the challenge in front of us – *Do minds construct reality?* – by starting with a close examination of the word “construct.” I will borrow from Bruno Latour's (2007) Actor Network Theory (ANT) here by saying, yes, minds construct reality, but that's not as weird as you might be imagining. Here I want the word construct in the phrase “construct reality” to operate in the exact same way as it does in the phrase “construct a house.” First I search for a suitable forest near a suitable spot. Then I go into the forest and chop down some suitable trees and mill lumber from them. Eventually I build myself a house, but I am not shocked that I have constructed a new reality “out of” the forest. I do not say “where did the forest go?” nor question whether the forest was “really there” before the house “took its place.” It is simply that before the construction, there was one set of relationships in the world, and afterwards, another set of relationships. In between *work was being done*. What is the work of construction? 1) I have to be able to *imagine* (LR) how a forest can become a house; 2) I have to be able to envision the steps of construction (UR); I have to be able

⁹ See <https://www.timetoast.com/timelines/the-scientists-who-discovered-atoms>

to build it, to manipulate it as concrete objects, and then in the process 3) I stumble across something that is useful in a way that I don't see, something that would have made a firmer joint or a better blade if I saw it that way (LR) until 1b) I imagine-into-a-seeing-how that something could indeed make a firmer joint or better blade... and round and round we go. Now consider the atom. It, too, is a construction. The atom is constructed through sophisticated work of all kinds, and depends on the ongoing processes and practices of the scientific enterprise. And just like the house which may one day be deconstructed by the termites and, over time, "return to being just a forest," the scientific enterprise also works such that "things" like "atoms" may one day be deconstructed and abandoned. "Did the atom exist before it was discovered?" can now be seen as a question of the same type as "Did the house exist before it was built?" This is the kind of work that good metaphysics can do.

A Process Model of Metaphysics

When Whitehead (1979) explored a process reality, he exposed something that was sorely missing in the western mind. Western metaphysics is based on substance thinking, thinking in terms of static, independently existing things. This is a metaphysical assumption that is wired deep in our minds and delivers up paradoxes like when we are not so sure if reality is really real if it is constructed, because "construction" tells us that being really real involves a process.¹⁰ This is what Whitehead wanted to correct. Instead of thinking of reality composed of "things," he thought of reality as ongoing process going on every which way. Instead of existence as a state of being, he disclosed existence as a continuous process of becoming. Even the ordinary things we experience as concrete, stable and lasting, are always coming and going. We can use our four-quadrant matrix of existence to derive a model of how people engage the world in a constructive process that moves "things" through the spectrum of existence.

Figure 2 illustrates the process phases of the human project of constructing reality correlated with the same four quadrants in the Matrix of Existence. It is a model of *the work that is being done* to generate existing realities for humans. Consider again the "invention-discovery" process of the atom. We can begin anywhere in the circle, but let's begin in creative imaginaries (LR). At some point in history, people conceive of the atomistic nature of reality (LR). They construct a story that satisfies their speculation; but inevitably, people bump into where the story is either incomplete or inconsistent. They begin to use discernment to make their story more precise. The precision sets up the conditions to gauge the story against what people actually experience. Much of what people perceive will be influenced by the story and subject to confirmation bias. Yet through adequate participation, a few people will discover a new clarity in the world that will resist being assimilated into the old story. Adequate participation may also involve new technologies that improve observation, like microscopes and telescopes. People discover effects that are absent causes, and seek to presence them. In the process, they begin to absent by deconstructing, the old story. Through a process that Peirce called abduction, and Bhaskar called retrodution, we bring new imaginaries to the task. The cycle repeats, as these new imaginaries

¹⁰ Consider how different theories of change play with this sense of reality-as-process. To be a human being involves becoming as developing from fertilized egg to birth and beyond. To be a human (sp) involves becoming in deep evolutionary time. To be a tornado involves becoming as emergent complexity. Note also that different theories of change are derived from different metaphysical assumptions.

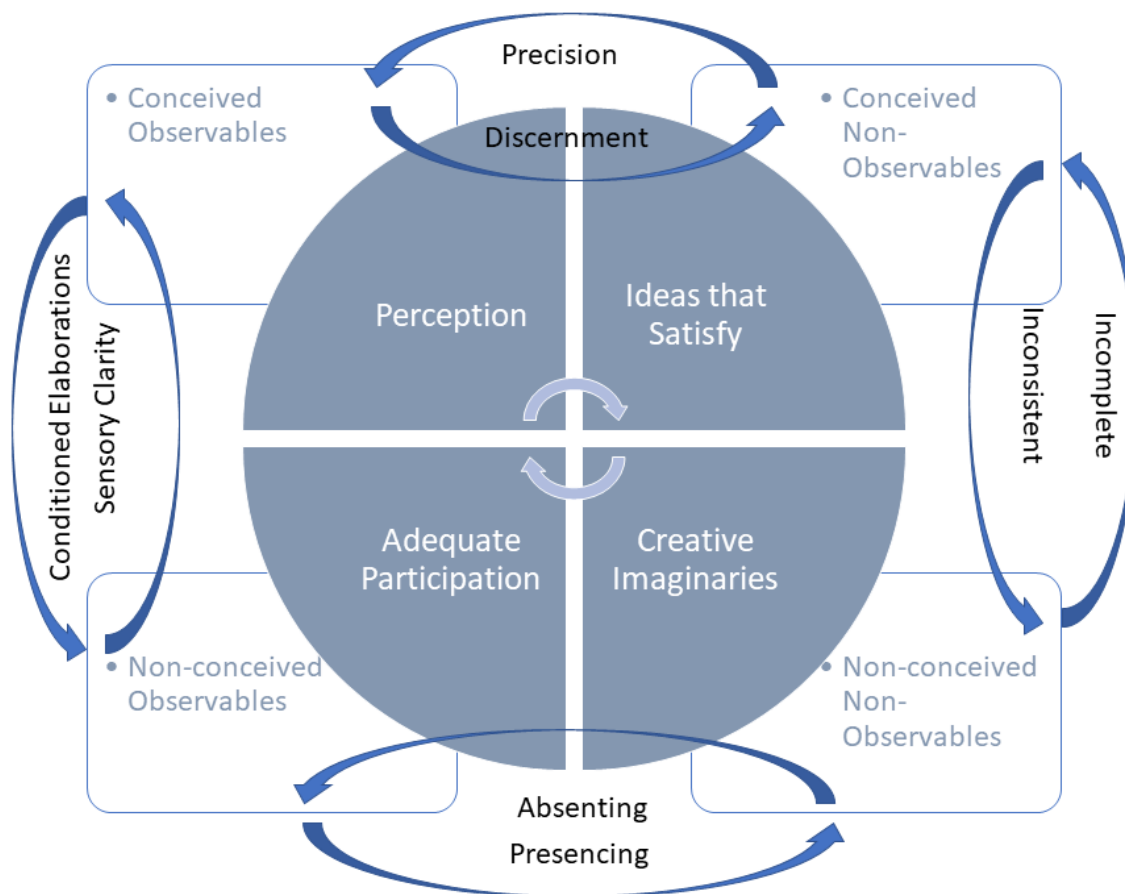


Figure 2. Process Phases of Human Existence.

seek new ideas that satisfy them. Many iterations later, people can observe atoms through the technology of the electron microscope and in the process, the “atom” becomes reified as a “thing” – a discrete unit of being that stands in for this long arc of becoming. When we do science, “adequate participation” involves an experimental set-up that provides the necessary conditions for reproducibility, “discernment” means mathematical precision, and “theories” are “ideas that satisfy; while it takes scientists of great genius to supply the creative imaginaries that leap frog over existing paradigms into new realities. Outside of science, the phases are the same, but the standards are not so rigid. Popular stories, cultural narratives, and social memes all participate in creating social realities that correspond with different group identities.

Whitehead’s philosophical method follows this model to a tee. He identified the imagination as the driver of new ideas and as the capacity to presence what is absent. He preached a kind of metaphysical skepticism which was needed to absent the old ideas; and practiced a kind of philosophical humility that was ready to throw away the conditioned habits of thought in order to perceive facts without inferences. He noted that speculative philosophy had both a rational side and an empirical side. The rational side required the speculation to be both “coherent and logical,” hence consistent and complete. The empirical requirement was that the philosophical scheme must be both “applicable and adequate,” hence satisfying and adequately participated in. These two sides, Whitehead wrote, are “bound together by clearing away any ambiguity,” hence the necessity

of discernment and precision. He wrote “A precise language must await a completed metaphysical knowledge.” Cue Hartshorne here, who carries forward Whitehead’s speculative musings toward a precise language of the metaphysics of process thinking.

Whitehead examined experience through the categories of memory and perception and imagination. “In studying memory, perception or imagination,” Hartshorne (1983) writes, “one needs to distinguish between 1) What is observably present in the experience, 2) what is not observably present; and 3) what is observably absent.” Here, he is referencing the UL, UR and LL quadrants of the matrix, respectively. Whitehead eventually integrated memory and perception with his notion of “prehension” as “intuition of the antecedently real.” This suggests that for Whitehead, the Upper quadrants represent the antecedents or “priors” of experience, those concrete occasions that constitute the “past” actuals; while the lower quadrants would represent the carrying-forward into the near adjacent moment of the possibly real. For Whitehead, perception is the body’s prehension, and memory is the mind’s prehension, which puts them in the UL and UR quadrants, respectively. The past is made concrete when perceptions find ideas that satisfy, or alternately when pre-established ideas discover perceptions that fulfill their expectations. Once this happens, a new round of prehension begins. We can imagine a torus-like animation flowing through the matrix (figure 3). With respect to the lower quadrants, where novelty catalyzes creative advance, Whitehead emphasizes that imagination is never merely mental (the LR aspect) but also always involves our body, as “truly parts of the physical world,” and in its way and degree also “revelatory of the world.” In our matrix of existence, the LL is the domain of this revelatory body, as it participates in world-becoming.

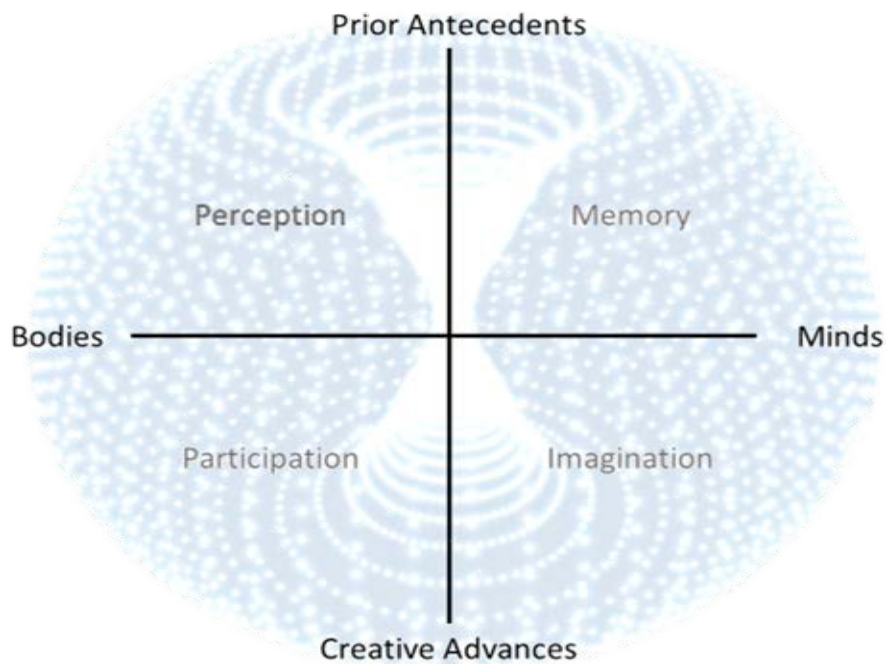


Figure 3. Whitehead’s process ontology and the matrix of existence.

Mapping Whitehead's process ontology onto the matrix of existence, reveals several important new ideas that are derived from a process view (see figure 3). Most people never really understand the radical shift required in a process view. Most people make the mistake of thinking of "bodies" as concrete actuals in the past, and "minds" as imaginative, flexible possibilities of the future. This results in the kind of patently dualistic reality that both Whitehead and Hartshorne rejected. Rather, bodies and minds *together extend* from the past through a mutual process of prehension and creative advance.¹¹

For Whitehead, bodies and minds, are not equitable to binary objects and subjects. Bodies and minds of the prior occasion are prehended as perception and memory; while bodies and minds creatively advance as participation and imagination. This means that objective and subjective realities interpenetrate at all "times." The mental model we create in our heads selects aspects of this processual continuum and categorizes them into a simplistic binary schema where there is a "past" *as opposed to* the "future" and "bodies(objects)" *as opposed to* "minds(subjects). For Whitehead, this processual whorl composes a "nexus" – which is the local center of the epoch which entails the entire composition. Identifying this nexus would be like finding the center of a musical whole. We can imagine that as the music *unfolds*, the meaning *infolds*, as subsequent notes adapt prior meanings. The epoch is the whole given in its entirety – the interpenetration of the unfolding score and the infolding meaning. In Whitehead's term *this double-movement* constitutes an epochal moment in an actual occasion. The movement from unfolding processes to infolding ones, constitutes the movement from "bodies" to "minds" in figure 3 – from perception and participation to memory and imagination. Taken together, perception and participation are called "prehension" in Whitehead's terminology – the unfolding movement in the epochal event. Memory and imagination are the forces of infoldment, giving rise to the actual occasion. Every epoch has a "duration" – the local center of which is the nexus. The broader the "duration" the greater the amount of reality prehended and enfolded. This gives rise the fractal scalar pattern of reality, in which entities of various durations constitute greater and lesser wholes. At the universal scale, everything prehends and gives new meaning with everything else. The duration of the universal epoch would be eternal.¹²

Whitehead, began his career as a British mathematician who, along with his student Bertrand Russel, collaborated on the monumental "*Principia Mathematica.*" Unlike his contemporaries,

¹¹ In addition to this, Peter Kakol (2009) lists the significance of Whitehead's notion of prehension: The profundity of Whitehead's concept of prehension becomes obvious when we consider that it makes possible the unification of no less than nine different phenomena (1) *memory*, as intra-bodily prehension of the distant past; (2) *perception*, as extra-bodily prehension of the more recent past; (3) *time*, as the passage from prehension to prehension; (4) *space*, as a complication of time: the prehension of parallel or contemporary prehensions; (5) *causality*, as the influence (in the sense of necessary condition only) of the prehended upon the prehending; (6) *substance, being and enduring individuality*, as abstractions from spatial and/or temporal prehensions such that only common features are prehended; (7) *mind-body relation*, as the interaction between two types of the previous relation – namely, a temporal series of prehensions (the mind) and a spatio-temporal grouping/ series of prehension (the body); (8) *subject-object relation* as the prehension of past prehension(s); and (9) *God-world relation* as the interaction between the totality of non-divine prehensions and the divine series of prehensions (pg. 17-18)

¹² Eternal here implies simultaneity, or absence of the passage of time. It is not the same as "infinite" which refers to the "infinite passage of time."

however, Whitehead was drawn to the idea of *Love* as the universal force of creation. At the heart of his Process Reality, is a radical ontology of love as the fundamental universal force. Love, at the universal and eternal scale, manifested as prehension at the local scales, making *Love* the force of creative advance. Whitehead said that reality arises through a series of moments which feel into the past moment as they feel for(ward) the next moment. For him, the action in-between was nothing at all like the tight wire between the physicists' cause and effect. Rather, Whitehead thought of this feeling-process as incredibly sensitive, provocative and *loving*. He construed each individual epoch as the long, long moment of possibility, freedom and choice not only granted to each local nexus, but given as a fundamental property of the universe. Here, prehension is synonymous with sentience, and therefore, each local nexus are sentient beings at all imaginable scales permeating the universal field of feeling (love).¹³ If you situated yourself imaginatively inside Whitehead's process reality, you would come to experience yourself as a living center of transformational process without a sense of self. You would *feel* the act of unfolding and infolding, of both cause-creating-effect and effect-creating cause. In this a-temporal pulsation between antecedent feeling and creative advance – between the love act and her progeny – you would discover vast promise and freedom. Here is where we can see the spiritual chords deep within Whitehead's speculative ontology. Here is where we discover an ethics of care and concern inside a metaphysics of love as the cosmological force since, by implication, the more one prehends one's neighbors and relations, the longer one sustains the epochal duration, the more extensive you would become, until you felt the in-becoming of one body through the simultaneous presences of many bodies – the all in one. Here we see parallels with eastern mysticism, since, by implication, the more stabilized one's prehension, over the long, slow moment of feeling (love), the more expansive you would become, until you realized the eternal – the in-becoming of one novel moment through the simultaneous presencing of many moments.

By starting with prehension as *pure experience*, Whitehead avoided the contradictions Kant encountered when starting from phenomena, since the phenomena are already objects in the mind.¹⁴ To *experience* the redness of an object requires an adequate duration for the actual

¹³ Whitehead had a taxonomy of scales which said that at the same durational scale, all nexi (entities) comprised a *society*. This is often misconstrued, for example, when someone interprets this to mean that their body is a society of cells. This is an incorrect interpretation. It suggests that a society can supervene on its members in the same way my body can walk my cells around the room. There is no such supervenience in process philosophy. The society of human cells is comprised of *all human cells*, or more precisely, of many societies of different cell type with different historical nexi. As the biologist Lynn Margulis understood, micro-organisms comprise an enormous "society" in nature in ways that are independent of the kinds of classifications that we, as humans, are fond of making. As people and animals die, the micro-organisms go on to transition to new organizations, new ways of making a living and world-building. In process philosophy, a human body is not a society of cells, but a specific habitat or environment, or niche, that cells participate with(in). And like all habitats, the cells participate through a co-creative process of world-building (niche-construction/ body-building). It is in this way that process philosophy lays the groundwork for Evolutionary Developmental Theory by interpreting "bodies" as "developmental fields in which cells evolve" in the same way that natural ecologies, cultures, and markets are developmental fields in which species, humans and economies evolve. What "evolves" are the developmental fields. What "develops" are the agents with(in) the participation.

¹⁴ There is a similar trap with certain strains of vipassana practices which deconstruct phenomena into "emptiness" without taking into consideration that the phenomena that we are starting with are already mental objects, void of self-existence.

occasion to concretize (whether or not in the mind of a perceiving subject). On the other hand, to have a *perception* of redness requires an act of mind, a pre-positioning of the abstract category “red.” Experience, as Eugene Gendlin, (1997) would say, is first-person *process*, which is prior to perception. In Whitehead’s speculative reality, entities at all scales come and go. The scale of the entity is determined by the duration of this coming-and-going. Light as wave-and-particle is a type of coming and going at the Planck scale, which in Whitehead’s terms, would be considered a “duration.” Duration in Whitehead process reality is the same as “wavelength” in quantum mechanics. Atoms have a very short duration, cells a longer one, and waking human consciousness a longer one still. In this rich imaginary process view, the atoms in my cells come and go at a high frequency. But they come and go asynchronously (or else my body would also blink in and out of reality). As some atoms sneak back into existence, the presence of the other atoms, neatly arranged as my body, mostly guarantees that they will settle into the same groove, and occupy a similar position. Or take another atom’s place. Just like the Buddhist parable of the ship, whose sides, deck, sails, and keel are removed over different times, remains the “same boat,” reality slips in and out of becoming, but asynchronously and at multiple scales, so it “hangs together” despite omnipresent impermanence.

Whitehead’s reality is like a pocketknife one has cared for a long time. One first replaces a few lost screws; and then one day the right side handle is worn and replaced. A few year later, the left side handle is replaced. Eventually one replaces the blade. Despite everything, it remains, in the mind of the owner, the same pocketknife one has carried around “the whole time.”

The Buddhists, of course, tell the story of the replaceable-irreplaceable ship as a metaphor for the self, which can be examined to be the coming and going in and out of existence, riding on patterns of thought. One pattern which has been given a great deal of examination in both the east and the west, is the tendency of thought to move between contradictions. This is called “dialectical” aspect of thought which emerged approximately 3000 years ago, as discussed in the next section.

Dialectics: East and West

A new structure of consciousness emerged approximately 3000 years ago. Jean Gebser (1985) called this the Mental structure of consciousness. It gave humans the capacity to create concepts, and to create abstract categories. Plato recognized how powerful this type of reasoning could be. He identified the primary conceptual Ideas as “the language of the gods.” He used the term *diarexis* to describe what the conceptualizing and categorizing mind could accomplish. *Diarexis* means “to separate.” Plato recognized the power of the mind to separate out abstract categories from ordinary experience. He elevated the Ideas (the right hand quadrants of the matrix of existence) above ordinary forms of experience with his parable of the Cave. In this story, ordinary men were imprisoned in a cave of shadows cast on the walls, ignorant of the realm of pure Ideas outside the cave. The ideas were the source of the light of truth and freedom, whereas ordinary phenomena were merely shadows cast on the wall of a cave.

Today we use the word “dialectic” to describe a fundamental feature of the conceptualizing, categorizing mind – that it *moves back and forth between dichotomies, searching for a resolution.*

Since the metaphysical schema of the categories of theoretic mind are ultimately contradictory, reasoning takes on a kind of back-and-forth movement as it searches for a resolution to paradox. This often takes on the form of a “third term.” If for example, I have the category of “man” and the category of “woman” I can use the third term “human” as a higher inclusive category. Some of the most fundamental categories, however, are inherently contradictory. In logics, they take on the form of A , $\sim A$ (not A), and cannot be resolved by a simple inclusion. When, for example, we consider the set [man, woman], we can easily see that the set “human” is an inclusive term. Similarly, I can easily use the inclusive term “counting numbers” to stand in for the set [1,2,3]. What happens, however, when we consider the set [A , $\sim A$]? Do they merely cancel themselves out like matter and anti-matter in a sci-fi novel? What happens to our reasoning process when A is a valid proposition, and $\sim A$ is also a valid proposition? Dialectic is the kind of back and forth movement that happens when we attempt to hold both A and $\sim A$ as valid truths. Plotinus described this movement as the “up-ward” path, because he recognized how the dialectic mind could shift “upwards” into a higher level of abstraction- what we call a meta-level. For example, we adjudicate the tension between competing theories by building a meta-theory that contextualizes them from a higher, more complex system of abstractions. This up-wards shift into a higher order abstraction (or more complex proposition) could (apparently) synthesize the contradiction in the lower level terms. When people say that classical western philosophy is merely “footnotes to Plato” they are pointing out the *form of reasoning* that has persisted. My term for this form of reasoning is the *synthetic-dialectic* – what Hegel identified as the cosmological principle of “sublation,” what Gebser characterized as the “pyramidal” structure of reasoning, and what Ken Wilber would popularize with the phrase “transcend and include.” This “up-ward” or “synthetic” movement was one way the Mental structure of consciousness reasoned its way away from its fractured metaphysical basis. It is as if our modern minds forgot the original “sin” of *diareisis*, or separation, and looked for reparation and healing in the direction toward more orders of abstraction and higher and higher levels of hierarchical complexity.

The Mental structure of consciousness emerged in a few major city-centers and travelled along the great trade routes at the intersection of eastern and western cultures. Its native language was the Indo-European language family that travelled throughout the world, along these trade routes, transforming cultures along the way and seeding the great religious traditions with Platonism in the Judeo-Christian worlds and Indian scholasticism in the Buddhist worlds. However, while the Platonists propagated the “up-ward” path, the eastern scholastics took the opposite turn toward the “down-ward” path. As a result, instead of building their philosophical systems on *synthetic* approaches to the dialectic, they built equally impressive scholastic systems through *deconstructive* approaches to the dialectic.^{15,16} Plotinus had praised the dialectic as the “up-ward

¹⁵ The astute reader will know where this is all going. There is a dialectic between the synthetic and deconstructive methods, and it is this meta-historical dialectic that Whitehead’s process philosophy broke open and led the way for Hartshorne’s process metaphysics which represented the first new dialectical approach in the history of mind. I will take up this part of the story in the next section of the paper. In the final section of the paper I will describe how Peter Kakol, went on to capture the historical implications of Hartshorne’s work with respect to the dialectic between eastern and western dialectics.

¹⁶ Gebser predicted that a new structure of consciousness, called the Integral structure, was already evolving, and it is exactly around this lynch-pin of the dialectic that the new structure makes a radical shift. Gebser emphasized that the Integral structure would not have the “pyramidal” form – which is his metaphor for the synthetic-dialectic movement. However, Gebser seemed ignorant of the eastern “deconstructive”

path.” By contrast, Nagarjuna’s fourth lemma bemoans the “endless oscillations” of the dialectical mind (Kakol 2009). In the east, deconstructive approaches supported *deeper* insights (versus *higher abstractions*) gleaned from sophisticated states of focused attention in advanced meditation. In the west, synthetic approaches supported insights gleaned from sophisticated controlled experiments. Although the approaches steered people in opposite directions, we can draw a parallel between the outcomes. In the west, the synthetic approach produced *higher meta-theoretical complexity*, used to explore the nature of the universe. In the east, the deconstructive approach produced *deeper meta-cognitive views* used to explore the nature of mind.¹⁷

Hartshorne’s Metaphysics of Ultimate Contrasts

Charles Hartshorne was interested in metaphysics and religion and was greatly influenced by the theological implications of Whitehead’s process ontology. Hartshorne went on to develop Whitehead’s ideas into what today is regarded as the field of “process theology,” which continues to be expanded both by Christian and Jewish theologians and has recently begun to be integrated with modern Buddhist thought with which it shares some parallels. Hartshorne translated Whitehead’s notion of prehension as “creative synthesis” which he saw as the fundamental cosmological principle, the largest nexus of which is simply “God.” Perhaps even more significant, is that Hartshorne recognized that Whitehead’s work entailed a radically new and powerful metaphysics that seemed to eclipse everything that had come before. What Hartshorne exposed in Whitehead’s process ontology was a new metaphysics – a novel response to the dialectics of categories, that was neither the synthetic, pyramidal, up-ward move that came to dominate western reason, nor did it follow the eastern path of deconstructive analysis. Hartshorne noticed that when you start with the metaphysical categories, they always demonstrate a dialectic that cannot be resolved, because all our thought has been based on ultimate categories that are contrasting terms. In other words, the mind sets up a puzzle that is impossible to solve. Readers of this journal will be familiar with Wilber’s AQAL matrix, for example. It is a matrix of ultimate contrasts: interior/exterior; one/many; subject/object’ singular/plural; inside/outside. Whether or not Wilber considers these deep ontological structures is up for debate, since he seems to represent different positions at different times. To Hartshorne, however, the AQAL model clearly maps out the puzzle we’ve constructed with the categories of our mind. We have constructed in our minds, only a few boxes that are opposites of each other, into which we try to cram all of existence. Hartshorne realized that all our metaphysical categories come in one of two forms: there are

dialectic which was equally characteristic of the Mental structure of consciousness, and therefore doesn’t address it in his writing. Although not synthetic or pyramidal in form, it would be a mistake to construe the eastern approach as a feature of the new Integral structure of consciousness, as it is still an outcome of the dialectical tension that results from a metaphysics of ultimate contrasts. Future Gebser scholars should take note of this crucial distinction.

¹⁷ There are many different ways to “go meta.” John Churchill, for example, is mapping the higher stages (yanas) of meditation onto levels of development he calls “meta-cognitive” stages. These are insight stages that **do not** complexify reality, rather the insights that are gained **cut through** complexity (the mental elaborations) and deliver a more immediate, direct perception of reality as it is. For a discussion on direct perception as adequate participation, see my paper at https://integral-review.org/issues/vol_14_no_1_roy_awakened_perception_perception_as_participation.pdf

relative terms, which he labelled r-terms, and there are absolute terms, which he labelled a-terms.¹⁸ This alone was not significant. What is significant is that Hartshorne realized that when you start with *experience*, as Whitehead had proposed, instead of with the categories themselves, whole new insights emerged.

Hartshorne saw that the problem lay in looking at the categories as *symmetrical* contrasts. We looked at them as mutually-dependent terms, or as two sides of the same coin. This made them inherently irresolvable into persistently higher levels of meta-abstraction, or inevitably self-deconstructive when subjected to radical examination. What Hartshorne realized that when you start from *experience*, you discover that the categories are *asymmetrically* related contrasts – that they are mutually inter-dependent, but *asymmetrically* mutually inter-dependent. Let me give an easy example that we can build on as we go:

Let's take the classic pair of ultimate contrasts that Nagarjuna worked with: form and emptiness. To say that "form is emptiness and emptiness is form" is to look at the categories as symmetrical. According to Hartshorne's terms, "emptiness" is the a-term (as Nagarjuna's system affirmed) and "form" is the r-term. "But" Hartshorne would ask Nagarjuna, "how did you get to your conclusion in actual experience?" "Well," Nagarjuna replies, "take any form and subject it to deconstructive analysis..." "Wait just there," Hartshorne interrupts. "What you are saying is that you *start* with form, but do you ever start with emptiness?" "Well, yes, you can start with emptiness," Nagarjuna smartly replies, but then has to check himself: "but when you start with "emptiness" that is the "emptiness" which is conceptual, and so it too is a kind of form – a thought form." "So," says Hartshorne, "if we stay with the actual experience, we always start from some form, some r-term, in order to derive the a-term – "emptiness." "Yes," Nagarjuna agrees. "So, in some way, then the a-term is dependent upon the r-term, in some way emptiness is dependent on form in a way that form is not dependent on emptiness," Hartshorne suggests. "Oh yes!" Nagarjuna agrees. And that changes everything!

Consider another example: the example of redness used above. We never actually experience "redness" we only experience *things* that are red. In this example, "redness" is the a-term, and "red things" is the r-term. There are many many red *things* but there is only one *redness*. Red *things* are given through experience, but *redness* can never be experienced – it can only be *metaphysically abstracted from all the many experiences of redness into a category of mind*. Redness is dependent on things in a completely different way than any red thing is dependent on redness. This turns almost everything we assume about the "ultimate" or "absolute" nature of reality on its head, because the tendency of the mind is to think that *because* a-terms are eternal, they are *more real*. But it is just the other way around. Because a-terms are eternal, they are only latently real, because their becoming actual depends upon experiencing the r-term and the pre-positioning of mind that "solidifies" or "reifies" them into an abstract category.

¹⁸ In the AQAL matrix, the terms "one," "singular" are a-terms, while the terms "many" and "plural" are r-terms. But the mapping becomes counter-intuitive when considering the other terms. In Hartshorne's process metaphysics, the matrix doesn't spread out so nicely in a symmetric way: "subjects" and "exteriors" as well as "bodies" are r-terms, because they are prehending actors, whereas "objects" and "interiors" are a-terms, because they are products of the mind that pre-positions them as phenomena.

If we start with the categories, we tend to assign a kind of model based on containers and what's contained in them, which is based on the "power of the abstraction" to speak *as if* the abstract term were larger and inclusive. We use a kind of set-theory mental model to say that "redness" includes all "red things." But if we talk *from* experience, we see that it is actually all the red things that include the red. It stands our metaphysical apparatus on its head! Now consider the list of ultimate contrasts that Hartshorne overturned:¹⁹

Table 1. r-terms and a-terms

	r- terms	a-terms
1	relative, dependent, internally related	absolute, independent, externally related
2	experience, subject	things experienced, objects
3	whole, inclusive	constituents, included
4	effect, conditioned	cause, condition
5	later, successor	earlier, predecessor
6	becoming, nascent, being created	in being, already created
7	temporal, succeeding some, preceding others	non-temporal as 1) primordial, preceding everything or 2) everlasting, succeeding everything
8	concrete, definite particular	abstract, indefinite, universal
9	actual	Potential
10	contingent	Necessary
11	a portion, P or process as past	earlier futuristic outline of P
12	finite	Infinite
13	discrete	Continuous
14	complex with constituents	simple, without constituents
15	singular, member	composite, group, mass
16	singular event, actuality	individual being, existent
17	individual	specific character
18	specific character	generic character
19	generic character	metaphysical category
20	God now, divine state or actuality	God as primordial and everlasting, divine essence and existence
21	God now	God and the world as they just have been

"Though polarities are ultimate," Hartshorne (1983) writes, "it does not follow that the two poles are ... on an equal status." When considered merely as abstract concepts or metaphysical

¹⁹ Hartshorne (1983) *Creative Synthesis* p. 100-101

categories, they are in fact co-relative, mutually dependent poles. When considered from the standpoint of *experience*, however, a *basic asymmetry is involved*: a-terms depend upon r-terms in a different way than r-terms depend upon a-terms. Line 5 in table 1 tells us how to map a-terms and r-terms onto figure 3. It tells us that as prior antecedents, perception and memory are a-terms; and as successors, a participation and imagination are r-terms. Line 2 shows us that perception and memory constitute the objects for their subjective correlates, participation and imagination. “That subjects are later (2r, 5r) and objects earlier (2a, 5a), will surprise many” Hartshorne (1983) writes,

It enshrines the doctrine that, both in memory and in perception, the given entities are antecedent events. As Bergson said, perhaps as the first, it is the past which is actual, there to be experienced. The present is nascent, it is coming into being, rather than in being, and there is no definite entity toprehend. Pierce hints at this. Whitehead, so far as I know, is the first thinker in all the world to take the position with full explicitness that experience is *never* simultaneous with its concrete objects but always subsequent. (p. 109)

What are some of the implications of a process metaphysics? Hartshorne writes:

Causality, substance, memory, perception, temporal succession, modality, are all but modulations of one principle of creative synthetic experiencing, feeding entirely upon its own prior products. This I regard as the most powerful metaphysical generalization ever accomplished. It has many men of genius back of it, including Bergson, perhaps Alexander, the Buddhists, and many others. But Whitehead is its greatest single creator. (p.107)

Process metaphysics reforms both eastern and western versions of Idealism. Both have religiously, spiritually, and metaphysically elevated the a-terms over the r-terms (which it often denigrates): absolute (over relative), cause (over effect), first cause (over proximate cause), universal (over particular), necessary, infinite, and eternal (over conditioned, finite, and temporary.) From a process metaphysical understanding, it means that religious, spiritual, and metaphysical idealism entails the exaltation of *objects over* subjects – things over process. Yet it would be mistake to conclude that process metaphysics merely reverses the bias. It would be more accurate to say that it *transverses* the subject-object dichotomy by making process prior to their delineation in a duration of prehension.

The Problem Situation

*Between two poles the mind has made a swing:
Thereon hang all beings and all worlds, and that swing never ceases its sway.
Millions of beings are there: the sun and the moon in their courses are there:
Millions of ages pass, and the swing goes on.*

~ Kabir (adapted by author)

Dogen, the 13th century Japanese philosopher-poet, founder of the Soto school of Zen, was known for his preoccupation with the swinging nature of thought. His primary focus was on the metaphysics of oneness and sameness. Dogen’s insight was that the endless swinging of thought was a source of deep suffering. Paraphrasing his illogics (koans) we could say:

*If you make the difference, you suffer the sameness.
If you make the sameness, you suffer the difference.*

He was telling us that when the mind categorizes, it cuts out parts of reality in abstracting out what is different. And this causes suffering because it distorts the real unity of being. But if we homogenize all beings into the category “oneness,” this also causes suffering, because it negates the infinite display of the myriad beings.²⁰ We see the consequences playing out in our postmodern society today. We see categories pushed onto people, creating a partial “sameness” while simultaneously difference from the other is exaggerated. We have repeated this cycle over and over again for decades, and as a result, the categories have become narrower and narrower. They are, in process metaphysics terms, a-terms for which no r-term actually exists. White, cis male, western, heterosexual, middle age, upper class is categorically not the same as white, cis male, western, heterosexual, middle age, lower class. And we already know the conclusions we are supposed to draw as they are already predicated (pre-dictated) by the categories. Consider how the categories “democrat” and “republican” have not only split apart, but have become ridged and so narrow that no one real individual actually fits them anymore. When I was a youth, the categories “girl” and “boy” were very broad, and could fit a wide diversity of behaviors, styles, and bodies. As these behaviors, styles and bodies changed as we grew up, the categories were expected to accommodate them. Today it’s the other way around – our behaviors, styles and bodies are expected to accommodate the categories! Which means we are habitually and exponentially privileging the object (a-term, abstraction, category) over the actual, living, being-in-becoming person (the r-term). This is something a metaphysical inquiry can help us with. If we refer to the figures in the beginning of this paper, we can see that this postmodern dis-ease is a result of being locked into the right hand quadrants where ideas and imagination create a mutually-reinforcing and reifying feedback loop without checking these against perceptual clarity and adequate participation in the real. Which, in this case, means actually getting to know the person you are speaking with, instead of categorizing people you are thinking about. We no longer pursue questions around what is actually happening in real life situations, in order to have deep, personal and intimate conversations at the intersection of two living beings. Rather, our discourse parasitizes real-life stories to create larger, politically-charged narratives that are distortions of reality that get amplified and played out on a stage of abstractions, poisoned by a partial metaphysics – like players in Beckett’s theatre of the absurd, waiting for the arrival of the abstracted.²¹ We can never find what we have already abstracted out of existence, parsing living form into thoughts in our heads which, in the final analysis, will always come up empty.

Furthermore, we are beginning to see that western science cannot address some of the most pressing challenges of our times. We can’t seem to solve the problems that matter most to us – some of which pose existential risks. Gebser proposed that each structure of consciousness represents an epoch which begins with a latent phase, followed by an efficient stage, and then enters a deficient stage. We are seeing clear evidence that the Mental structure of consciousness,

²⁰ Of course, process metaphysics readily solves this koan. The myriad beings are r-terms, their one-ness an a-term. Dogen famously said “To study the self is to lose the self,” and here by “self” he means the mind that reifies itself as an eternal (a-term). “To lose the self,” Dogen goes on, “is to be actualized by the myriad things.” This phrase “to be actualized by the myriad things” is identical to Whitehead’s notion of each entity becoming actual through the prehension of all entities.

²¹ God/Godot

whose efficient stage is represented by modern science and democracy, is now entering a deficient period reflected in the breakdown of science and politics as meaning-making endeavors. Even with the rise of global wealth, health, education and technology, the rates of benefit to risk are rapidly declining. There are two key factors here: 1) The synthetic-dialectical mind now escalates complexity faster than it solves problems; and 2) The metaphysics of causality is breaking down to the point where if-then propositions are no longer helpful. This means we are creating a “run-away-epistemology” and so, it is not surprising that we are abdicating our agency to machines whose AI is better designed to race along with it. Let’s consider these two in more detail:

1. The synthetic-dialectical mind now escalates complexity faster than it solves problems

In his book *Hyperobjects* Tim Morton (2013) writes “going meta has been the intellectual gesture par excellence for two centuries. He asserts it is *this attitude*, that is directly responsible for our ecological emergency.

This attitude is directly responsible for the ecological emergency, not the corporation or the individual per se, but the attitude that inheres both in the corporation and in the individual, and in the critique of the corporation and of the individual. (Kindle Location 2730)

Graham Harman (2011) uses the term “overmining” in a similar vein. According to Harman, “overmining” occurs when one “reduces a thing upwards,” which is to echo Plotinus’ “up-ward path” and the synthetic-dialectic mind we, along with Gebser, have targeted as the sine qua non of modernity (in its efficient stage) and post-modernity (in its deficient stage). Overmining has given us great systems views of the universe, while distancing us from the local and the real. Overmining has led to breakthroughs in science and technology, while exacerbating the problem space into inaccessibly large domains. Overmining has created gigantic objects called “hyperobjects” to wrestle with, objects which today supervene on human agency the way it has, for millennia, supervened on the agency of animals and ecosystems. Three millennia of privileging the abstraction, the a-term the “object” over the relative, subjective agent, has brought us to the state where, locked inside an impossibly complex discourse, we can no longer act. Ordinary, inconspicuous acts, like calling the earth “Gaia” is an overmining of our planetary reality, for “Gaia” is a concept, albeit one that was created out of concern for the living earth, but in generating the concept, it lets us off of the hook. Like the retreating God, “Gaia” is elsewhere, impossible to find in my own ordinary acts of choosing what I eat, what I buy, how I treat the land. It was nice to think that “Gaia” prevailed over all we do, balancing things out for us, the way foxes balance the rabbits (and vice-versa). But now, now that the hyperobject “Gaia” has reared her head and become the existential risk “Global Warming” we immediately see the equivalence. We are in a state of subordination to our own thought systems. The same is true for the other hyperobject that represents a real existential risk: Capitalism, and at the end of the day, all three may be equivalent.²² In the last analysis, a hyperobject is a hyper-system that supervenes on the agent who is trying to cognize it. Every way our reasoning turns, is already curved inwards, back into the logics of the system, in the same way that everything we do to try to alleviate global warming, turns back on itself through the logics of capitalism, into more global warming. Of course, our

²² Stuart Kaufman notes how economies are extensions of human ecology and evolve through the same principles as the biotic.

impulse will be, once again, to “go-meta” on the hyperobjects themselves. But, as we have noted, there are different ways to go meta,²³ and hyperobjects are derived from hyper-systemic modes of reasoning, based on the metaphysics of the synthetic-dialectical mind. Is it possible, then, to disentangle hyperobjects, to break them apart into manageable pieces upon which we can reassert our choice and agency, through a new kind of mind? Yes it is possible. But first, I will discuss the second of the key factors that generate our current crisis:

2. The metaphysics of causality is breaking down to the point where if-then propositions are no longer helpful.

Above a certain level of complexity, if-then propositions are not rich enough to resolve problems or cultivate preferred futures. Without if-then propositions, there can be no hypotheses, without hypotheses, no experimentally validating set-up, and hence, no science as modernity has understood it. Today we are witnessing the emergence of a radically new science, called *complexity science*. Many people are talking about it, but most people actually construe complexity science as a kind of penultimate level at the top of the meta-tier of systems thinking.

One thing the reader should know for sure, however, is that, as Cognitive Edge’s co-founder Dave Snowden quips “Complexity science is as different from systems thinking as quantum physics is from Newtonian physics.” With complexity science, the ordinary laws of causality, upon which Newtonian physics is based, break down. We enter into domains which are more akin to quantum mechanics where uncertainty prevails. We are used to thinking of quantum domains as incredibly small scales, but incredibly complex systems behave more like quantum systems than as systems at ordinary scales. In these systems, measurement is unreliable, the future is radically unpredictable, and causation is hyper-local – everywhere and nowhere at the same time. Complex systems are unknowable *by definition*, and therefore cannot be made into an “object.” Attempts to do so create our so-called hyperobjects. *The* key characteristics of complex systems are novelty and emergence. We participate with-in complex domains as agents gathering local information. This requires us to act, and in so doing, we perturb the micro-states of the system. This is a continuous feedback loop happening from myriad agents at multi-dimensional temporal and spatial scales. Complex processes generate stable and unstable, predictably unpredictable patterns that are part of the information feedback loop. We act freely, to amplify some of the incoming (returning) signals, and to dampen others. In real life, the signals are too subtle to know cognitively. Just like we can never know how it is we learn to speak, nevertheless, we learn. The same is true with other complex domains. We can never know, but we can learn. In this case, we must learn (again) to learn *intuitively*. In other words, – we must become *an instrument of perception*.

Now we can circle back to the process models of metaphysics (figures, 2 and 3). Local action is participation (LL) but we cannot know by deciding, so we have to choose imaginatively (LR) – together this advances the moment across the next duration of perception and memory (UL, UR). Here perception is pattern recognition, and memory is the infolding of the microstate as the embodied agent.²⁴ Human agency is reclaimed, because it is responding to perception and memory, through participation and imagination. Hence, at each step there is creative advance. This is the same reality that Stuart Kaufmann (2016) hopes to reclaim, to show us the “emergent magic” that

²³ See appendix for a full list of meta-moves. Can you add more?

²⁴ In process philosophy terms, “agent” is the nexus at the intersection of this process.

will re-enchant us. “We so wrongly think we know our worlds. We so wrongly believe that we can pose and answer our questions, when we often cannot even pose them adequately” (p. 1)”

Referring to the process model of process metaphysics (figure 3) I noted that “the Upper quadrants represent the antecedents or “priors” of experience, those concrete occasions that constitute the “past” actuals; while the lower quadrants would represent the carrying-forward into the near adjacent moment of the possibly real.” Here is Kaufmann’s version of the same: “We will find a new patten of explanation for the living world: ever-new Actuals do not cause, but *enable* ever-new, often nonstatable, adjacent possible opportunities” (p. 4).

These examples show how true complexity thinking, exits the causal structure of the Mental structure of consciousness. In the words of Stuart Kaufmann, it shows us that “the becoming of the biosphere is beyond law,” that “reductive materialism as a whole must fail [however hyperbolic its explanations become]” and that “the biosphere [is lawless and] is part of the universe [that] cannot be governed by a final theory” (p. xv). Solidly unified final theories are what the synthetic-dialectic mind has yearned for, ever since, with its inception, it tore reality into pieces.²⁵ Hence for 3000 years, humans in the east and west have tried to close the gap they themselves keep making, through a metaphysics of separation, and as a result have given us extraordinary “things” – densely interwoven entanglements of ideas, perception, memory and participation – that seem to satisfy, but in the end lead to unsurmountable complexities, or untenable emptiness(es).²⁶

A new process metaphysics could change all that and generate a new enchantment with the world. Absenting separation, it would no longer hunger for synthesis or unity. A profound faith in our conjoined nexi of histories, would replace our proclivity to mend the gap, as it were. Our lust for metaphysical unification has become an existential fetish – at once the thing we most desperately desire, and the thing that is most utterly unattainable. Everywhere we look there is a lot going on! To turn it all off, we have to force ourselves to stop looking, which means to cut off perception and participation. Isn’t this just what we are succeeding in doing, with our obsession with screens and preoccupation with the voices in our own heads? Coming from the bad faith of separation we are overwhelmed with being – everywhere to look, there is a lot going on! It is, in the words of Satre “de trop.” We try to look away, to assuage the onslaught of eternal becoming through the refuge of eternally unchanging things, for today it is the a-terms that pacify us. A new metaphysics could change all that, help us turn toward what is most alive, and hence, always coming and going, alive in its passing and advancing. We would learn to cultivate a new compass

²⁵ About “laws” Finkelstein (2003) writes

Some great scientists like Laplace and Einstein have believed in the existence of an absolute law and taken it as the supreme goal of physics. But many Western scientists and philosophers, including Newton, Mach and Whitehead, like many Buddhist and Hindu philosophers, explicitly propose that there is no fixed absolute law of nature, and that it makes sense to speak of a varying law. Bohm’s (1965) expression of this philosophy especially influenced me. He views a scientific theory as a specialized extension of normal human discourse. A theory is something that we tell one another. A final all-inclusive theory is as likely as a final all-inclusive remark. (p. 15)

²⁶ “Things” such as in the western science: ether, space-time continuum, dark matter, dark energy, quantum observation; and in the east: Brahmin, storehouse consciousness, Indra’s web, karmic law; and in religion/quasi-spirituality everywhere: God, gods, goddesses, Ashkasic field and the like.

– one that steers us toward a thriving future emerging from the pure potentials of a flourishing new world.

Why Metaphysics Matters

A good case can be made that modernity slipped into post-modernity when theory lost ground to meta-theories which contextualized them. Religion and science were put on equal grounds by postmodern structuralism which saw them both as historically contingent language games that had garnered significant political clout on different points of a spectrum. What post-modern meta-theory is actually concerned about is *underlying values*. Underlying values that drive religious belief. Underlying values that drive the scientific enterprise. Underlying values of capitalism, consumerism, communism and fascism. The values around which groups garner their identities, including nation, class, age, ethnicity and race. All the friction in the world was traced back to the incommensurability of values. It was hoped that an adequate meta-theory of values, would be able to adjudicate between competing worldviews and settle the accounts once and for all. There were a hundred thousand perspectives. The search, much like the search for a grand unifying theory in science, was to derive a meta-theory that could merge them into a single higher-order view. The metaphor used was that of altitude. Individual worldviews existed at the bottom of the mountain on different sides, with different perspectives. The meta-theorist was looking from the top of the mountain, where they could see that all the perspectives were true *but partial*. Given a clever-enough mind, one could derive a higher-order perspective that transcended and included all the others. Unfortunately, people soon discovered there were a hundred thousand mountains upon which to establish different meta-theories. To make matters worse, meta-theories have two particular drawbacks that theories do not. One drawback is that meta-theories tend to *exit the domain of inquiry*. A good theory of labor, incites action; a good theory of ecosystem interdependencies, facilitates change. On the other hand, a meta-theory that contextualizes all political platforms is not *doing politics*; a book that contextualizes all possible perspectives on ecology is not *doing ecology*. In a very real sense, meta-theory parasitizes action, it leads to, as the popular phrase has it “analysis paralysis.” The second drawback is even more pernicious and results in endless debate cycles. Scientists had long known that ordinary theories could be ranked by which theory could derive everything in the other theory *and then provide even more explanatory power*. Two different scientists could fight it out until one scientist’s body of knowledge exhausted the others, while still having more to say than the others. This proved not to be true of meta-theory. Competing meta-theories could “hold” each other’s entire body of knowledge, by contextualized it through its particular meta-theoretical lens. Not knowing this leads to ongoing and often vicious struggles between competing authors,²⁷ who, because they can *see the other’s perspective from within their meta-view*, gain confidence in the validity of their own view. The problem is, that *both debators* are experiencing the exact same feedback loop. Ongoing debates merely build more confidence in each disparate camp. And the game plays on and on. From a certain perspective, one can see that this inner game of the mind parallels the outer game of late stage finance capitalism, whose financial instruments complexify like the meta-theories now complexify into meta-meta-theories. Both are accumulating their own kind of debt. Ken Wilber called the kind of debt that the mind issues “an IOU to the universe,” which he saw to

²⁷ For example, between Ken Wilber and Roy Bhaskar. Most of the debates we see on youtube have this problem, for example when Jordan Peterson debates Ezra Klein, or Sam Harris debates just about anyone.

be an inevitable unintended consequence of the mind's efforts to know. Everything today seems to be slipping towards Armageddon, moving like the arms race of yore, except at exponentially faster speeds. What I want to point out is that it is *this* – this peculiar feature of our Metamodern era, is *not a consequence of mind, but a consequence of a certain kind of mind*. This is of course the type of mind that is predicated by the synthetic-dialectic – which now has entered its deficient stage as it shifts into hyper drive.

The crucial distinction here that has to be made is the difference between *epistemic complexity* and *ontological complexity*. The deep ecologist Arne Naess said “Nature is *elegantly complex*.” The key features of elegant complexity are 1) rich, textured, diverse environments and 2) deep, satisfying coherence.²⁸ One might say that epistemic elegance is thought that simultaneously satisfies what is true, good and beautiful in reality. Epistemic complexity is like the noise we dial through to find a radio station. Ontological complexity is the coherence that we attain when we tune to a signal with high fidelity – the sound becomes perfectly clear.²⁹ Because our thought systems are not 100% coherent with the real, (lack of fidelity) we add epistemic complexity to the situation. Consider for example a patient coming to a doctor for help (the scenario works equally well with a medical physician or a therapeutic psychologist). The patient's body-mind is already a complex system. The doctor, who applies an epistemic lens to the system *escalates the complexity* the system entails. This is particularly true of western approaches to medicine and therapy. It is also the case when we as humans attempt to “manage” ecosystems and climate. Whenever our epistemic system does not have the requisite variety (rich, textured diverse) or fidelity (coherent with the real) we add epistemic complexity to the system. Ontological complexity manifests itself as complex, coherence patterns. These patterns are generated from simple yet profound protocols. This is tricky. Protocols are not “laws” of nature.³⁰ “Laws of nature” are stable patterns that emerge through the self-organized complexity of multiple agents who are feeling (prehending) their way to their future selves. Protocols are the *values and means of discernment* that guide the agents from choice to choice, from anticipation to satisfaction in a field of creative possibility. The richer the environment, the more the environment *affords* novelty and coherence at a higher level of complexity. Epistemic complexity results when we try to work at the level of the emergent pattern,

²⁸ Which is not the same as agreement or alignment. The wolf and the elk are coherent, and this makes the rivers and the forest coherent, too. see *How Wolves Change Rivers at* <https://www.youtube.com/watch?v=ySa5OBhXz-Q>

²⁹ A new science means that we use our whole body-mind, to discover new points of fidelity – high coherence between the world, and our affective-perceptual-cognitive states. These respectively, account for the real (world) the good (affective) the beautiful (perceptual) and the true (cognitive).

³⁰ Consider the ways we have understood planetary movement. Ptolemy was working at the level of the pattern that could be seen from the vantage point of the earth. This resulted in an overly complex system of epicycles. The shift in view from a geo centric to a heliocentric solar system, greatly reduced the epistemic complexity. But the planets themselves didn't all of a sudden jump into a simpler configuration. The ontological complexity remained the same. Newton worked at the level of “laws” that governed the planets. The planets were de-animated objects subject to certain laws and forces. Einstein shifted closer to the notion of protocols, where *mass itself* self-organizes planetary systems through its own essential protocols. Mass becomes self-animated agency in the universe.

which is a category error. A paradigm shift in complexity science is to discover the key generative protocols at the core of the emergent pattern that we seek to understand.^{31,32}

So, why does metaphysics matter? We need a new mind, and metaphysics can help us sample and create new architectures of thought. The new architecture would cut out the epistemic complexity and more perfectly cohere with the rich elegant complexity of the real. By adopting a process understanding of reality, metaphysics could become a suitable guide for a Metamodern *praxis*, one which integrated perception and participation with the free play of imagination and memory. The task at hand is radical. It would be like swiping a hard drive clean, and uploading completely new software, from scratch, mostly through trial and error, gesture and response, sensing and acting our way forward until the moment when the reality we are situated in, collectively satisfied our dreams of the future “our hearts know is possible.” It would not be a task we could formulate beforehand, or even know afterwards. It would be something that, like human speech, would realize itself through processes of creative becoming. It would never be something we could know, but it is something we could learn to do. Thus, it would take more than intelligence to pull it off. It would require a highly *conscious* species, to realize this learning journey. Such a consciousness certainly exists as a potential future state of our infinitely creative universe. Will this consciousness rise up in us?

³¹ Important steps and key indicators of weaning ourselves from the high epistemic complexity of systems thinking are detailed in my article here <http://integralleadershipreview.com/16031-releasing-complexity/>

³² For a taste of a new approach to facing complex issues, see my interviews with Daniel Thorson on *source code analysis* on the Emerge Podcast here: <https://anchor.fm/emerge/episodes/Bonnitta-Roy---A-Source-Code-Analysis-of-Power-e23glc>

Appendix

Here a meta, there a meta, everywhere a meta meta

We can distinguish modes of “going meta.”

1. Meta-synthetic: Modes associated with the dialectic-synthetic “up-ward” path that characterizes the Mental structure of consciousness and the models of adult development that are based on hierarchical complexity and differentiation-integration models.
2. Deconstructive: Modes associated with the eastern, “downward path”, negative dialectics, and illogics.
3. Meta-cognitive: Creating an observational “gap” between knower and known by making an object out of prior subjective contents, i.e. the “Kegan move.”
4. Orthogonal: Modes that shift to different cognitive architectures, such as process philosophy, aesthetic judgement, or aeskesis/ practical judgement.
5. Simplicity: Modes that seek to identify source protocols or “deep code” inside the epistemic architecture, to release complexity of the problem situation.
6. Holistic (meta-complexity) orientation: Essentially a non-epistemic mode that engages embodied “back-ground” processes to carry experience forward: “critical reflexivity,” “meditation in action.”

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