

Title	From Wisdom to Spirituality : Serres, Polanyi and Complexity
Author(s)	Takaki, Kyle
Editor(s)	
Citation	Journal of Philosophy of Life. 2016, 6 (1), p.23-50
Issue Date	2016-04
URL	<a href="http://hdl.handle.net/10466/15005">http://hdl.handle.net/10466/15005</a>
Rights	

[Essay]

## From Wisdom to Spirituality

Serres, Polanyi and Complexity

Kyle Takaki\*

### **Abstract**

A prominent feature of modernity is the fracturing of disciplines and inquiry, separating what we know from how we know, and how these relate back to our own being. Knowing is not only largely separated from wisdom, it also tends to be divorced from a wider spiritual pursuit. In spite of this, there is a renewal of a spiritual sensibility that seeks to heal the fracturing of inquiry, exhibited in modern searches for a re-enchantment of the cosmos. These modern frameworks challenge tacit Cartesian divisions by accommodating knowledge and its integral relations to wisdom; oftentimes such frameworks are informed by a wider spiritual pursuit. The particular framework I propose is a rehabilitation of ancient philosophy as a way of life, which also crucially appropriates ideas from Michel Serres and Michael Polanyi, as well as ideas about complex-systems.

### **MODERNITY'S FRAGMENTATION**

The fracturing of disciplines and inquiry is a feature of modernity, whose historical roots and symptoms have been investigated by a range of thinkers, Charles Taylor perhaps taking the most comprehensive approach (Taylor 1989, 2007; see also Berman 1981, Graham 2007, Griffin 1988, Landy and Saler 2009, Spretnak 1991 and 1997, and Toulmin 1990). Such fracturing is evident in the adoption of a problems-based approach to philosophical topics, where the narrow depths probed tend to be methodologically separated off from any question of their bearing on one's own practices, beliefs, and so forth. From a historical perspective, this isolation of topics (or more generally a tacit divide between theory and practice) stems significantly from Cartesian assumptions separating knower from known (see Tiles and Tiles 1993 and also Taylor 1991).

Whatever the detailed historical roots of this separation of disciplines and inquiry, it remains that modern modes of investigating a problem tend to separate not only what we know from how we know, but also how both of these might relate back to our own being; knowing is divorced from wisdom, leaving

---

\* Independent Scholar. Email: ktakaki[a]hawaii.edu

the relation between these modalities largely unaddressed. Even contemporary attempts to put Humpty-Dumpty back together, via virtue epistemology for example, start their projects from latent Cartesian assumptions regarding knower and known (epistemic virtues presume a separation between how we know reliably and what is known). In spite of these problematic fractures, there is an awareness that knowing and wisdom ought to be intrinsically related (thus providing one motivation for rehabilitating aspects of ancient approaches to philosophy, as with virtue epistemology). But this awareness only scratches the surface, as there is a deeper and wider integrative dimension left out of the picture, namely the question of how knowledge and wisdom relate to what might be called *spirituality*.

The rise of secularity is most likely responsible for the additional divisions between spirituality as once inseparable from religion, and knowledge and wisdom (Taylor's 2007 magisterial work traces the rise of these divisions). The approach I adopt doesn't draw a strong distinction between religion and spirituality, but it also doesn't require that they run together. Rather the issue concerns how knowing and wisdom relate to the wider sensibility that *spirituality* conveys. For even if we provide a framework integrally relating what we know to how we know (as is advocated by feminist approaches to epistemology, for example) there is the larger issue of how such a framework relates to our own being and more "cosmic" considerations.

Knowledge, wisdom, and spirituality are not strongly distinguishable from this wider perspective, nor I suggest ought they to be. For example, ancient Greek philosophy places questions of knowledge and wisdom as integral to one's own being; but more importantly, the whole Greek project is grounded in a larger spiritual context of coming to understand one's place in the cosmos (see Hadot 1995, 2002). The audacity of such a project may seem quaint and antiquated in comparison to the immensity of today's knowledge gained from physics and the sciences more generally. But this ancient spiritual quest finds revival in the modern search for a re-enchantment of the cosmos, which seeks to heal the fracturing of inquiry. These modern frameworks challenge tacit Cartesian divisions by accommodating knowledge and its integral relations to wisdom; and oftentimes such frameworks are informed by a wider spiritual pursuit. The particular framework I propose is a rehabilitation of ancient philosophy as a "way of life" (Hadot 1995), but it also crucially appropriates ideas from Michel Serres and Michael Polanyi, as well as ideas about

complex-systems.

## WISDOM AND SPIRITUALITY

Notions like wisdom and spirituality tend to have a breadth and depth not amenable to precise characterization, in part because the boundaries—if there are any—of a putative wisdom or spiritual practice are diffuse at best. One way to approach the inherent fuzziness of wisdom and spirituality is to take a comparative stance, which will help to get a better (if indirect) bearing on these notions by asking how they relate to one another. From this perspective there are at least three views of the relation between the two.

The first is the view that the two are so intimately related in practice and theory as to not be strongly separable; for example, Stoic views of philosophy as a way of life integrate wisdom and spirituality into a cosmic context, where it makes no sense to adopt a problems-based approach that studies, say, Stoic logic without mentioning the integral cosmic and self-cultivating roles of *logos* (see Hadot 1995, 1998). Second is a modern view that secular wisdom (and/or secular spirituality) can and should be distinguished from religious variants of spirituality (and/or religious wisdom), as encapsulated by the contemporary expression that one may be “spiritual but not religious” (see Fuller 2001, James 1902, and Harris 2014). And third is a reaction to this view holding that there are various sorts of rapprochements between secular wisdom and forms of religious spirituality (e.g., Barbour 1990 and 2000; Polkinghorne 1998).

The view I present cuts across these three options, as 1) while it seeks to rehabilitate ancient approaches to wisdom/spirituality as a way of life, it revises if not rejects ancient cosmological views (an unavoidable position given modern science’s bearing on these ancient cosmologies); 2) it doesn’t subscribe to the divide between the secular and the religious (a problematic divide that discounts rich, complex, and *enabling* historical backgrounds—Taylor’s 2007 work draws out this theme concerning the rise of secularity in a proscribed region of the West from a Christian background); and 3) it doesn’t seek a rapprochement, but rather an “orthogonal” framework that realigns these notions, thereby creating a new space for their reconfigured interrelations.

The first move in constructing this orthogonal framework is the adoption of an embodied approach to wisdom and spirituality. By and large embodied approaches in philosophy (and elsewhere) focus on cognitive claims: that

knowing is embodied, explicating what this means and its implications for epistemology (Lakoff and Johnson 1999); that embodiment offers an importantly different approach to cognition compared to the dominant research programs in cognitive science (Shapiro 2011); that embodiment casts new light on mainstream approaches to ethics (Johnson 2014); and so on. I don't offer any additional arguments for embodiment, as I think that has been done elsewhere; rather by bringing on board an embodied perspective I seek to disclose how wisdom and spirituality are integrally related within this framework. Indeed, even stronger, wisdom and spirituality must be embodied in order for these notions to have the potency required to rehabilitate the ancient view of philosophy as a path, a practice, and a theory—in sum, as a way of life.

## **FROM EMBODIMENT TO WISDOM**

A key reason for adopting an embodied approach to wisdom and spirituality is to heal any latent Cartesian divides between knower and known, which often obscure or erode potential relations to one's being. In this section and the next I outline the move from embodiment to wisdom as a first piece in constructing a framework that accommodates a spiritual sensibility (secular or otherwise) aiming to rehabilitate philosophy as a way of life.

There are a number of approaches to embodiment (Shapiro 2011), some differences of which are important, but in the larger scheme of things their commonalities outweigh the differences. Broadly speaking, they are unified by the claim that neglected elements of embodiment are at work in all our thinking. Various disembodied conceptions (such as the autonomy of reason, or “professionalized ethics” as divorced from the formation of ethical character) are targeted by embodied approaches which argue that such conceptions are in fact only possible by discounting a fund of assumed embodied resources. My concern is to appropriate selected insights from an embodied standpoint, to make clear their bearing on ancient views of wisdom.

There is an additional reason for this concern: modern philosophy tends to mine ancient philosophical sources for the problems they raise. While certainly legitimate to an extent, this move carries a residual cost that is not often given sufficient attention. What is lost is that ancient philosophical writings were integrally related to questions concerning how to live life well, questions revolving centrally around the pursuit of wisdom. Pierre Hadot calls this ancient

conception of philosophy a “way of life” that intimately relates even theoretical pursuits to questions of living well. Indeed, it might be said that the whole of ancient philosophy is an exercise in “embodiment,” at least insofar as philosophical inquiry of whatever sort, properly carried out, would have intimate bearing on one’s embodied well-being. From this vantage point, the modern notion of a problems-based approach conveniently separating off inquiry’s bearing on the care-of-self would be either problematic at best, or not a possibility of conception at worst. For such an *implicitly disembodied* stance cuts against the very ethos of ancient philosophy’s founding project of pursuing wisdom as lived, as practiced, and concomitantly as embodied.

The move from embodiment to wisdom is thus in part a nod to philosophy’s roots, expressing the need in today’s fractured world for some techniques of “making whole” that adopt as a starting point the interrelationality of our projects anchored by the pursuit of wisdom. The other rationale for pursuing wisdom from an embodied standpoint concerns its contemporary relevance as a research program in cognitive science and philosophy. Work done especially by George Lakoff and Mark Johnson outlines the implications for this new, non-Cartesian philosophical framework (see Lakoff and Johnson 1999). The framework has a number of features, two specifically that bear on the pursuit of wisdom as that pursuit relates to the closely related pursuit of a spiritual sensibility.

The first is that spiritual experience is embodied (Lakoff and Johnson 1999, 564-566) and that our embodied minds are empathic: “Imaginative empathic projection is a major part of what has always been called spiritual experience” (565). The second is that Cartesian modes of thinking tend to separate in disembodied fashion (consciously or not) one’s bodily self from one’s personhood. Both of these embodied features and their connection to wisdom require further elaboration.

## **EMBODIED WISDOM AND EMBODIED SPIRITUALITY**

I begin with the above second feature, as it dovetails into the other feature regarding imaginative empathic projection. Lakoff and Johnson discuss what they call the “Subject-Self metaphor” (Lakoff and Johnson 1999, Ch.13) that delineates a conceptual space through which the bodily self bears on personhood. There are three basic forms of embodied experience that underlie this metaphor

relating one's physical body to one's sense of self: "1. The correlations between body control and the control of physical objects. 2. The correlation between being in one's normal surroundings and being able to control the physical objects in one's surroundings. 3. The correlation between how those around us evaluate our actions and the actions of others and how we evaluate our own actions" (Lakoff and Johnson 1999, 562). These correlations enable the Subject-Self metaphor, where our sense of personhood maps to the Subject in relation to our differential control and/or evaluation of our surroundings, ourselves, and others. Since the I (think especially of the Cartesian *cogito*) can be conceived of as the locus of control, appearing to be separable from the physical body, Lakoff and Johnson argue that this very metaphoric scheme has been tacitly conscripted in accounts dividing the physical self from the person/subject. Thus disembodied views of the person, when their metaphoric structures are more carefully investigated, actually stem from discounted embodied resources.

This matters since an embodied view of personhood draws attention to a wealth of often overlooked embodied structures that populate our conceptual landscape. An embodied viewpoint shifts how wisdom is conceived via disclosure of these tacit structures, which also realigns wisdom's relation to the pursuit of spirituality (see, for example, Thompson 2014 on an enactive, embodied view of self and its integral relations to various spiritual practices). Disembodied positions all too easily fall prey to various sorts of conceptual reifications. These reifications, in turn, make it all too easy to artificially isolate topics of inquiry, leaving unclear just how such matters redound back upon one's process of inquiry and the care-of-self. In other words, the arc from object of study back to one's self-accrediting activities is left incomplete, if only because the pursuit of wisdom doesn't ground inquiry from the start (at least to some significant degree). A pursuit of wisdom that is embodied, whose reflexive arc of inquiry is best characterized as a way of life, cannot divorce itself from this larger project, this larger way. This is the key implication of adopting an embodied stance towards the pursuit of wisdom.

However, the pursuit of wisdom by itself may not suffice in scope, as there are often more encompassing goods intimately related to wisdom that hold deeper significance. Such goods correspond to what Taylor calls "hypergoods"—the fundamental sorts of background commitments that grant meaning to our various projects (see Taylor 1999, 2004, and 2007). What I call

the “pursuit of spirituality” can be conceptualized as a hypergood, however this ideal is realized. Spirituality in this sense includes variegated experiential dimensions as well as dimensions regarding ethics, cosmic considerations, religious practices, etc. To illustrate by contrast, a narrow form of spirituality occurs in Sam Harris’ (2014) focus on experiences and techniques (e.g., practicing mindfulness) that he argues are divorceable from religion, and subject to scientific investigation. The wide sensibility I employ subtly undermines this kind of Cartesian “cherry picking,” as it seeks to reintegrate the variegated dimensions of spirituality. Thus, for example, while spirituality in a narrow sense can be distinguished from religion (Harris 2014, 8-9), the deeper unaddressed question remains: how have authentically committed spiritual and often religious pursuits been intertwined and pursued across various traditions (think, for example, of Christian monastic pursuits, Tibetan Buddhist practices, Sufi mystics, and so forth)? What this deeper question reveals is that we cannot lose track of the wide sensibility of spiritual pursuits without doing interpretive damage to its various experiences and techniques.<sup>1</sup>

Without further exploration of the difficult and tangled question of just what constitutes spirituality (or wisdom for that matter), what needs to be emphasized is that this pursuit relates in *embodied* fashion to the other pursuit, the pursuit of wisdom. This brings us to the other feature of spiritual experience mentioned at the end of the previous section that Lakoff and Johnson approach from an embodied perspective. Consistent with the wide sensibility of spirituality as a hypergood, Lakoff and Johnson suggest (*pace* Harris) that it is through empathic projection that we come to embodied spirituality as “something more than spiritual *experience*. It is an ethical relationship to the physical world” (Lakoff and Johnson 1999, 566). In other words, this transactive relationship forms an irreducible circuit between our bodily selves, our sense of personhood, and our layers of ecological embeddedness; we are not merely receptacles of spiritual “experience” (filled with practiced “techniques,” *à la* Harris), but rather are integrally part and parcel of embodied and enabling synergetic circuits. It is via

---

<sup>1</sup> Harris writes that investigating “the nature of consciousness itself—and transforming its contents through deliberate training—is the basis of spiritual life” (Harris 2014, 51). This, I think, reveals the narrow, problems-based approach that Harris adopts concerning spirituality, which hides or discounts the rich, enabling contextual *backgrounds* of various spiritual practices—dimensions of which are often inextricably bound up with religious beliefs, institutional practices, cosmic conceptions, socio-historical traditions, and so forth. To separate spirituality from these wider dimensions is hermeneutically unsafe, and fails to address a key impulse often at the core of spiritual pursuits, namely a quest to find our place in the cosmos.

our various empathic capacities, whether with regard to other persons, animals, inanimate objects, etc., that we widen our horizons of concern. While these experiences may form the basis for further spiritual pursuits, what Lakoff and Johnson are driving at here is the wider relationality that an embodied spirituality intimates. It is an “ethical relationship”—and maybe even a cosmic relationship, or at the very least an ecological relationship in an expansive sense—expressive of a hypergood reflecting the deepest of commitments and pursuits.

Generally speaking, this wide sense of relationality via empathic projection is a key feature of embodied spirituality. It is not enough to characterize spirituality as merely experiential, focusing on its narrow episodic dimensions. Even the pursuit of wisdom cannot be captured in its merely experiential (and/or “technical”) dimensions, as is evidenced by the perennial difficulty in capturing just what philosophy (the pursuit of *sophia*) is. Both the pursuit of wisdom and pursuit of spirituality are open-ended, almost by nature. Of course embodied wisdom and spirituality are crucially related to one another, but what embodied spirituality adds to an embodied pursuit of wisdom is the macro-sense that our various localized projects partake in a larger “meta-projective project,” as it were, of which our limited horizons are only partial clues.

Examples of this general characterization abound in ancient philosophy—for example, Stoic therapeutics as an embodied pursuit of wisdom, whose larger spiritual trajectory aims to find one’s place in the cosmos (*logos*). This general characterization also fits with the critique that Hadot makes of Michel Foucault’s reading of various ancient technologies of the self. Hadot argues that Foucault’s concentration on techniques as restricted to the ethical realm doesn’t properly take into account the crucial background configuring these very techniques—a background making integral all forms of inquiry (think of Aurelius’ reflections on physics and logic, for example) as they bear not just on these technologies of self, but on the larger pursuit of wisdom in all its cosmic dimensions.

Thus what an embodied approach to wisdom and spirituality creates is a space for rehabilitating the ancient view of philosophy as a way of life *even in the midst of* living in a fractured, secular age of diverse beliefs and practices. Furthermore, this project of making-whole accommodates insights from modern science, and seeks to make integral our often discounted relations to a larger cosmos.

## **FROM SPIRITUALITY AS GENERAL TO THE PARTICULAR**

Embodied wisdom and spirituality are informed by our various projective capacities (empathic, imaginative, metaphoric, etc.), whose entrainment, through technologies of the self, issues in a widening of our horizons. This widening suggests that we cannot draw strong distinctions between the realms of ethics, physics, logic, and so forth, as all forms of inquiry bear in some capacity on spirituality as a hypergood—an emergent-and-emerging sensibility in the process of making. How do reflections on the embodied dimensions of knowing, wisdom, and spirituality bear on such expansiveness? While generally process oriented, these reflections still remain one step removed from lived experience, especially concerning the feeling of depth and wholeness that often accompany authentic spiritual experience. Moreover, these reflections to some unavoidable degree must conceptually represent lived processes when accounting for how we think, conceive, feel and so on. Thus embodied accounts of knowing are enmeshed in a spectator's stance, containing some residue of generality as a result of the conceptual apparatuses they employ (such as metaphor, image schemas, basic categories, etc.; see Lakoff 1987 and Johnson 1987). The price of generality also holds for any account of embodied wisdom and spirituality outlined by this research program. In other words, some degree of separation is present between an account-given-of and lived experience.

The problem, though, doesn't lie in the nature of generality itself. For generality also characterizes wisdom (especially its application in making prudent decisions) and spirituality (specifically its wide and encompassing sensibility). It might further be said that the non-dual and intimate relation between embodied wisdom and spirituality is a kind of generality writ large, as it concerns the scope and depth of our widening horizons. For example, the image of a saint reaching a transcendent state, kenotically emptying out the entrapments of ego, is one example of a spiritual sensibility, where this very transcendence/generality dissolves any individual distinctions, leaving the saint slack-jawed in a state of beatitude before the One. On an embodied account, the saint's experience is understandable as a projected idealization (via imaginative empathic imagination) of a spiritual practice, even though its mystical nature can perhaps never be fully conveyed. The problem thus lies not in generality as such; rather the problem lies in the relation between the general and the specific,

and the contour (or sensibility as I have been calling it) of these two things as they bear on lived experience.

To shift perspectives, consider the reverse of this image, where the spiritual resides in the particular and not so much the general. In this case, the expansiveness of an embodied spiritual sensibility doesn't lie merely in the wideness itself, but is conveyed through the particular, although with a qualitatively different sense of expansiveness. This "expansive particularity," as it were, is best illustrated by suchness in Buddhist traditions, where one transcends one's epistemic categories of understanding (in a qualitatively different way than the above saint's transcendence). It is also crucial to keep in mind that spirituality doesn't lie in tools by which cognitive scientists may map particularity/suchness. For the sciences in general focus on some stable pattern of interest, which is then to an unavoidable extent ossified as a system with imposed boundary conditions and perhaps initial conditions assigned to studying its dynamics. These epistemic ways of grasping particular dynamics still carry a conceptual residue of generality, whether in the aim of searching for some patterned behavior (such as a neural correlate of a meditative state), or some explanation via an underlying causal regularity (e.g., certain areas of the brain being responsible for phenomena associated with peak experience). The particular in the sciences carries with it an implicit degree of generality that is part and parcel of its very epistemic project—but it is a project quite different from the sort of particularity aimed at in spiritual pursuits (as with soteriologically realizing the suchness of existence).

Transcending science's epistemic particular yields not quite a bare particular—which is still a metaphysical abstraction at the limit of thought—but rather experiential particularity. It is the place where our epistemic modes of grasping quiet themselves and a qualitatively different sort of particularity emerges. As Michel Serres suggests in a number of his works, this place is actually the birthplace of epistemics, and inquiry in general. It is the disordered, the chaotic, the unstable, the dynamic—what he calls the "circumstantial," whose affordances allow for what we, in our modes of investigation, commonly understand as particulars.

Serres' language tends to be dense, allusive, and poetic, in part aiming to reveal the always and already present circumstances enabling our very use of language, our very employment of concepts, and so forth (see Latour 1988 and Berressem 2005). The therapeutic, desedimentizing language he employs forms

an integral part of what he is drawing our attention to; what matters I think is that his overall approach is consonant with a number of other modern philosophers, especially Merleau-Ponty, Heidegger, Wittgenstein, and Dewey.<sup>2</sup> In line with the above discussion, Serres can be read as drawing us towards transcending the epistemic particular by utilizing some of those very epistemic categories that reveal through their shortcomings the overflowing richness of lived particularity.<sup>3</sup>

In cognitive science a related project (though with an important difference, as discussed below) is underway, generally characterizable as a family of ecological approaches to perception, cognition, and embodiment. Evan Thompson, for example, calls his project “neurophenomenology,” which takes seriously both the insights from contemplative practices and various scientific methods, fusing the particular (e.g., testimony on the suchness of experience via expert Buddhist practitioners) and the general (patterns sought by scientific-epistemic modes of grasping). This hybrid project—markedly different from Harris’ starting point—begins by respecting such contemplative practices, recognizing simultaneously that one cannot simply treat them as mere objects of scientific study. For already present in the background is a pursuit of wisdom, whose meditative techniques are part and parcel of cultivating proper discernment, and an embodied spirituality, whose practices are soteriologically oriented.

Where Serres’ project (insofar as it can be called a “project”) intersects with ecological research programs is in his explorations of the tacit dimensions of turbulence. But it is crucial to note that these ecological projects also differ from Serres since projects like neurophenomenology seek to bridge the gap between the epistemic particular (e.g., in seeking a scientific understanding of consciousness) and its potentially transcendent dimensions (e.g., concerning sages whose lived states of luminous consciousness apparently exceed conceptual grasp), whereas Serres doesn’t see any gap to bridge, as such gaps still contain Cartesian traces. Instead Serres starts with turbulence—the

---

<sup>2</sup> Although Serres distances himself from Heidegger and (early) Merleau-Ponty—as generally too language-based and theoretically oriented, doing a disservice to the actual overflowing robustness of sensation, embodiment, and the nexuses of relations crisscrossing us and the world—his works can be interpreted as a radicalized extension of these sorts of projects.

<sup>3</sup> The expressiveness of lived experience is a theme that runs through much of Serres’ works; such expressiveness finds strong resonance especially with the thought of later Merleau-Ponty (compare Hass 2008 and Serres 2009b).

anti-epistemic, anti-Cartesian roots from which we mid-level dwellers can then adopt a spectator's stance to investigate turbulent dynamics, as with neurophenomenology, ecological perception, and embodied knowing. Serres rather radically, and I think accurately, suggests that the history of western thought writ large is an exercise in focusing on regimes of stability (metaphorically expressed via his notion of statues), obscuring the primordial and fundamental role played by turbulence in all its forms. We are primordially awash in a sea of turbulence with occasional islands of emergent order. This actually isn't that controversial a claim when viewed from another angle. From the perspective of physics, the fundamental science, perhaps the most important of laws is that concerning entropy. Order emerges out of dynamics that are turbulent; yet into chaos all things will eventually go. The rivers of turbulence form the backdrop for all processes (see for example John Wheeler 1998 on turbulent, primordial quantum foam, and Ilya Prigogine 1980 on irreversibility and chaos). We need to attune ourselves to these often hidden yet enabling "circumstantial" circumstances, suggests Serres (see Kavanaugh 1986).<sup>4</sup>

Serres' project I think is characterizable as a kind of embodied spirituality of the non-epistemic particular (where, for instance, Buddhist suchness—a non-epistemic particularity—would disclose the circumstantial). Serres himself doesn't describe his radical "empirical" approach (*Five Senses*) as a spiritual one, however we can appropriate his insights into a framework recognizing the dimensions of primordial, embodied experience of particulars. For this crisscrossed particularity in its overflowing richness ends up conveying the same sort of sensibility as a wide cosmic spirituality, as is present for example in the Stoic *logos*—even if the details differ quite starkly (for *logos*, the goodness of the cosmos is part of the rational order into which we must learn to fit; by

---

<sup>4</sup> Hanjo Berressem notes that there are two senses of chaos closely interwoven in Serres' thought, especially as developed in his *Birth of Physics*:

Serres starts his Lucretian meditation by unfolding in detail the two seemingly divergent modes of chaos that inform the Lucretian text. The first of these is the "ordered chaos" of the laminar flux that is disturbed into disorder by the clinamen: "Laminar flow, the figure of chaos, is at first sight a model of order.... Turbulence seems to introduce a disorder into this arrangement.... Disorder emerges from order" (B, 27). This disorder is the chaos of the Brownian background noise out of which, subsequently, temporary and local orders will emerge and that will continue to rumble through any form of order. This passage is the one from a turbulent, pure chaos (*turba* [28], whose image is turbulence) to a deterministic chaos (*turbo*, whose image is the vortex; see also 175–76). As Serres notes, "the origin of things and the beginning of order consists simply in the narrow space between *turba* and *turbo*...between turbulence and vortex.... The first is simply disorder and the second a particular form in movement." (Berressem 2005, 56)

contrast the turbulent, chaotic cosmos of modern physics is one of creative and destructive flux, of co-defining and co-enabling emergent order and disorder). What both forms of embodied spirituality share—whether the modern one I suggest that Serres is presenting, or the spiritual practices of ancient philosophy—is the sense that we partake in a larger whole, whose overflowing dimensions are only nascently present in normal experience. An awakening to these dimensions and how our inquiries, practices, and beliefs ought to be made integral with this larger cosmic search is the hypergood enfolding the contemporary realization that emergence, complexity, and chaos have always been and already are present.

### **THE CIRCUMSTANTIAL, THE TOPOLOGICAL, AND COMPLEXITY**

Serres' claim that we are, in essence, saturated in turbulence (from which stability and order emerge, as conditioned upon and enabled by various kinds of turbulent dynamics) is not an empty metaphysical assertion (compare Latour 1988, 94-97). In addition to its grounding in the phenomenological and extra-phenomenological dimensions of sensory experience—Serres' radical, crisscrossed, circumstantial empiricism—his claim also stems from reflections on the new sciences of complexity. From a complex-systems viewpoint, the circumstantial can be read as the various sorts of dynamic boundary conditions that enable our sensorium of experience, conditions that further convey a sense of overflowing, relational creativity. A root-metaphor of complex-systems thinking is that all complex phenomena are situated between the border of chaos and order, where the intertwined dynamics generate novel structures of interest. The circumstantial covers, via metaphoric images (allusions, and so forth), the interactive boundaries by which phenomena emerge. This is an inversion of the received order of things: stabilities of various sorts traditionally studied by the sciences, which when inductively projected convey the image of science as discovering the real (the manifest image of objectivity), are in fact immersed in a sea of turbulent dynamics; complexity and chaos are primordial, from which various islands of stability are extracted, studied, and taken as the real.

In similar fashion, our primordial embodied experience is immersed in a rich surplus of turbulence, revealed by nexuses of particularity. What are these nexuses? For Serres, here is where complexity and the circumstantial irretrievably intertwine: the particular is in fact a mixture (*mélange*) of our

embodied capacities, our ecological contextuality, and the emergent dynamics within and between.<sup>5</sup> The tangled, nexal nature of particularity reveals the irreversible mixing of these three things, and the “topological” character of experience. Serres deploys a mathematical metaphor contrasting topology with metrical geometry, where the latter stands for conventional investigations of various stabilities (and equilibrium-type situations as canonically laid out in physics and economics, for example). Metrical geometry can provide a priori solutions given artificially induced boundary conditions and initial conditions, with subsequent modeling applications for well-behaved domains. Topology, by contrast, is qualitatively irreducible to various quantitative techniques, where it becomes an appropriate tool in non-well-behaved situations (e.g., the use of phase spaces to map the tangles of dynamical equations that are not analytically solvable). As Serres and Latour note, “the science of nearness and rifts is called topology, while the science of stable and well-defined distances is called metrical geometry” (Serres and Latour 1995, 60). Serres suggests that the image of knotted topological mappings best characterize most of the world, where fuzziness, noise, and various forms of chaos reign supreme. Things are mixed (conveyed through Serres’ metaphoric vehicle of Hermes); this is the dominant reality, and not equilibrium-type stabilities (compare Ball 2015, Kauffman 2008, and Prigogine and Stengers 1984). Serres seeks to reawaken us to this overflowing, knotted complexity. This orientation is, I suggest, a kind of rehabilitated spirituality—a sensibility akin to ancient philosophical ways of life that seek to reawaken us to the wonders of the world, to the bottomless enchantment of things.

In what sense is this a reawakening? A major theme of Serres’ works is that language obscures the vast background of turbulence which actually makes possible language, stability, and so on. As Laura Salisbury notes, for “Serres, before language, before even the word, there was noise, a ‘background noise, which precedes all signals and is an obstacle to their perception’ (Serres and Latour 78). This noise, against which previous philosophies have blocked their ears, is both the very possibility of language and its interference; it is the multiple sound of the universe that ‘the intense sound of language prevents us

---

<sup>5</sup> Serres’ use of ideas from complex-systems thinking is a crucial clue in understanding his non-standard sort of “realism.” This is where I think Latour misconstrues Serres’ philosophy as one that adopts the view of the known rather than the knower (Latour 1988, 89); rather it is itself a *mélange* of the borderlands of complexity and experience.

from hearing” (Salisbury 2006, 78). Such background “noise” is a background surplus, not to be confused with a purely random and disordered state (such as noise in the state of entropic heat death). This is a reawakening to the primordial background whose rich, expansive vastness is often engulfed by language and concepts. Indeed, a “world that is conceived of according to the complex, unpredictable and turbulent circulation of information, rather than under the delimited arena of agreement that Serres problematically suggests is required by the exchange of signs, takes Serres back to ‘the primal adventure of philosophy ... the bottomless mystery of the givenness of things, now, and perhaps just for now, apprehensible otherwise than as the mere task or antagonist of the linguistic subject-protagonist’” (Connor 2009, 167).<sup>6</sup> Signs that are tacitly oriented by human-centric, linguistic concerns is what Serres labors to strip away, revealing the hidden yet always present and enabling topological, complex background. As suggested above, this can be rendered as a rehabilitation of an ancient project, where the pursuit of wisdom simultaneously becomes an exercise in the enchantment of the world. Or is it the re-enchantment of the world?

## **ENCHANTMENT AND SPIRITUALITY: A POLANYIAN APPROACH**

It should be noted that for Serres there is no search for re-enchantment; rather nature is already enchanted. What’s the difference? A parallel question brings the difference into clearer focus: Is the search for *re*-enchantment actually symptomatic of an underlying and problematic need? If it is, the problem might stem from either the assumption that the world is already enchanted in some fundamental sense obscured by modernity, which then should be corrected for re-enchantment to occur, or the assumption that the search for re-enchantment imposes a naive need upon nature, which by itself requires no such gilding. The sort of spirituality as tied to enchantment that I’ve been driving towards overlaps with elements of both assumptions, but ultimately depends on neither of them.

Concerning the first assumption, there are various projects that seek to re-enchant nature by contesting various Cartesian presumptions lying at the root

---

<sup>6</sup> Serres objection to empires of signs is part of his critique of the flattening aspect of language. In particular, he is objecting to French semiotic approaches that remain entrapped in language’s house of being. Other quite different semiotic and embodied approaches I think are compatible with Serres’ general philosophy; for example, Peircean semiotics, biosemiotics, and ecological accounts of perception and embodiment.

of modernity (e.g., Berman 1981 and Griffin 1988). The sort of spirituality outlined thus far acknowledges, like with these projects, that nature is richer than modernity tends to recognize. But I think no correction is needed, at least in the sense of remedies that come in the form of “radical” alternatives—for often the very richness intimated is indirectly disclosed by the same Cartesian tools that attempt to tame nature’s overflowing dynamics (see Auyang 1998 and Kauffman 1995, 2000, and 2008). As for the second assumption above, I acknowledge that nature by itself does not call for re-enchantment; however this is beside the point, as the implicit separation between the order of being and how we come to know that order often fuels both re-enchantment and disenchantment narratives. In other words, the underlying presumption separating these two orders makes possible the search for re-enchanting nature *as well as* Weberian narratives that trace the root of disenchantment to rational mechanism, the possibility of scientific progress, and so forth (see Bennett 2001). Perhaps it is this very presumption that is inappropriate (or in Wittgensteinian terms, perhaps both narratives are two sides of the same bad coin).

As mentioned previously, the overflowing, rich complexity of nature ought to be made integral to our inquiries, practices, and beliefs as they are oriented by a larger cosmic sensibility. This integral notion is a hypergood accommodating the contemporary realization that emergence, complexity, and chaos have always been and already are present, and also accommodating the suggestion of various thinkers that some sort of “re”-enchantment is needed, although not beholden to the Cartesian field of play (see Taylor 2007 and Bennett 2001). Here is where Michael Polanyi’s philosophy enters the picture, as it presents an alternative to the above two assumptions, and also fits with the framework being unfolded that cuts across these assumptions while simultaneously acknowledging aspects of their insights.

Polanyi starts by recognizing nature’s overflowing dimensions, the non-closure of inquiry, and the (semiotically) enfolded order of knowing and the order of known. His insights on tacit knowing present an outlook where every act of knowing involves a commitment to what is known (always provisionally) with the hope of making contact with realities through an ever ongoing process of reticulated inquiry. Such leaps of intimated yet provisional knowing are acts of “faith,” broadly and charitably interpreted. Richard Gelwick writes that tacit “knowing is what faith is. Faith is a way of relying on for attending to a focal

awareness or concern. Relying on is a trusting activity of the self. Everything we do from ordinary skills such as walking, speaking, thinking, and eating we do by relying upon countless subsidiary elements for reaching a focal aim” (Gelwick 2014, 14). There are, to be sure, a multitude of senses of “faith” that potentially obscure the fiduciary aspect present in all knowing that Polanyi emphasizes. However what undergirds these senses is the element of trust concerning subsidiaries bearing on that which is projected (the focal dimension of what faith projects). This implies an element of responsible accrediting that manifests the potentiality for growth over time. Accordingly, Gelwick goes on to note that in

everyday usage and even often in religious speech, the one term “faith” for both the act of trusting and the statement of beliefs is confusing. The saying “You have to have faith” may mean trusting in a process to lead toward fulfillment *or* it can mean a particular set of beliefs such as “you must believe that Jesus is the Christ.” Polanyi’s distinction between the tacit and the explicit clarifies this problem. All persons as knowers have, to use a phrase from H. Richard Niebuhr’s 1951 *Christ and Culture*, “little faiths” as they work out their lives (239). The little acts of trusting as we grow, mature, work, play, and find direction need a bearing on more than the immediate choices of existence. They need a bearing on the greater reality in which we live and have our being. This process of working out our lives is very much the interplay of the subsidiary and of the focal in tacit knowing and implies a relativity of the faith that is believed. Every act of trusting is a renewing of a former focal awareness or revising it in light of the totality of our continuing experience.... (Gelwick 2014, 15)

This accrediting “circle” of expanding growth—the interplay between focal and subsidiary integrations that lead to “bigger faiths,” as it were—is tied to making contact with realities that are also integrally bound up with this very process of growth (see also Gelwick 2005 and Lowney 2010).

Thus for Polanyi the “fiduciary” dimension (faith and commitment) of all knowing enfolds the orders of knowing and known, where ontological and metaphysical claims are grounded in tacit knowing’s workings. However, this epistemic stance should not be confused with any sort of associated idealism (even transcendental idealism) or mere subjectivity. And on the other side of this standard coin, Polanyi should not be flatly categorized as a realist (he has been

understood as perhaps a critical realist—see Rutledge 2015—among other options—see *Tradition and Discovery* 2000 26:3 and Lowney 2013). Rather his conception of reality as open-ended, bound up with inquiry, and to be made contact with in indefinite and consequential ways—suspended and sustained in faith—offers a framework whose outlook meshes nicely with recognizing the complexity of the world (see *Tradition and Discovery* 2014 40:3). Indeed, his extensive experience as a chemist gained him intimate exposure to the phenomena of chaos, emergence, and complexity (Juarrero 2014). It thus might not be surprising that Polanyi’s framework can offer a novel way to understand the problem of re-enchantment, and the pursuits of wisdom and spirituality. For Polanyi’s project, to reemphasize, begins in a place significantly different from re-enchantment projects responding to Cartesian worldviews, and more generally from the dualistic presumptions (e.g. between knower and known) underlying disenchantment as well as re-enchantment narratives.

Polanyi’s non-dualistic framework places emphasis on the embodied character of all knowing, where our commitments and inquires seeking to make contact with realities are always entwined with our embodied apparatuses that orient the process of inquiry. Polanyi’s post-Cartesian framework neither separates the order of knowing from the order of known—as they are semiotically intermingled in an embodied field of indefinite, ongoing inquiry—nor seeks any re-enchantment of the world. Rather enchantment is already a part of tacit knowing’s exploratory character, present in pedestrian examples such as learning to use a cane and more sophisticated examples such as coming to a scientific discovery. The embodied character of tacit knowing also coheres with Lakoff and Johnson’s ideas concerning projective embodied spirituality. In particular, tacit knowing’s exploratory character, when practiced at its highest levels of indwelling and commitment, take on the form of what Polanyi terms “contemplation,” which is thoroughly spiritual in character.

Polanyi writes that the “most radical manifestation of this urge to break through all fixed conceptual frameworks is the act of ecstatic vision. When we abandon ourselves to the contemplation of the stars we attend to them in a way which is not an astronomical observation” (Polanyi 1974, 196). By contrast, our normal modes of experience, scientific or otherwise, appear to establish a kind of dualistic “screen” distinguishing the order of known and the order of knowing: “As observers or manipulators of experience we are guided *by* experience and pass *through* experience without experiencing it *in itself*. The

conceptual framework by which we observe and manipulate things being present as a screen between ourselves and these things, their sights and sounds, and the smell and touch of them transpire but tenuously through this screen, which keep us aloof from them” (Polanyi 1974, 197). Underlying this dualistic image is a reification of what is projected via tacit knowing—the “screen” or sheen of things as we are engaged in manipulation, observation, or otherwise. But when breaking through this screen of normalcy, tacit knowing’s consummate forms of operation indwell in the focal projection itself, where contemplation “dissolves the screen, stops our movement through experience and pours us straight into experience; we cease to handle things and become immersed in them” (Polanyi 1974, 197). Even stronger, this form of indwelling “consists of a complete participation of the person in that which he contemplates and not in his complete detachment from it .... Since the impersonality of contemplation is a self-abandonment, it can be described either as egocentric or as selfless, depending on whether one refers to the contemplator’s visionary act or to the submergence of his person” (197). From a Polanyian vantage point we can understand why commonly deployed (though incorrect) Cartesian assumptions work so well for normal, stable modes of behavior—as they involve some degree of manipulation of phenomena and in the process reify focal patterns of interest—as well as why non-Cartesian forms of spiritual experience shift from (dualistic) reification to selfless indwelling that dissolves the screen’s duality. The broader point is that neither normal nor ecstatic experience raise the need for re-enchantment on Polanyi’s orientation, as we are invested, by our impassioned and personalistic commitments, to inquiries that are always and already to some degree “enchanted.”

In addition to starting with enchantment, there are several features of Polanyi’s philosophical framework conducive to a joint pursuit of wisdom and spirituality. The first feature is Polanyi’s non-standard realism, where as mentioned previously when striving to make contact with reality, what constitutes “the real” in a metaphysical sense is grounded in our epistemic capacities and responsibilities (see Mullins 2000). This expansive project pursuing truth is interpretable as a spiritual sensibility which cannot be divorced from its particular prudential negotiations (a simultaneous exercise in pursuing wisdom). The second feature is Polanyi’s exploration and use of metaphor, where he recognizes its power to shape thought, understanding, and our projected metaphysical worldviews. Root-metaphors in particular that enable

and sustain these projections are not merely separate tools of investigation, but are integral to our very being. We thereby dwell in what we project as part of a fund of meaningfulness guiding our investigations of whatever sort (this is Polanyi's bold claim that all knowing is either tacit or rooted in tacit knowing). The fact that spiritual and/or wisdom traditions almost universally make significant use of metaphor is an indication that a charitable account of metaphor can bridge the pursuits of wisdom and spirituality. The third feature is that such a "fund of meaningfulness" is part and parcel of the passionate commitments we make, which are integrated into the very structure of what we project. This lived dimension of knowing-and-experiencing is the "fiduciary" aspect of tacit knowing, whose continuum includes rivulets of wisdom as well as wide contemplative oceans of spirituality.

It should be mentioned that these features parallel some important and commonly noted traits of spiritual experience: the sense of contact with the "Real" (however that may be understood), the use of metaphoric language to convey the expansiveness of such contact, and the dynamic, awakened texture of the experience that often coincides with a sense of the aliveness of the world. These features of spiritual experience, while they have varying "surface grammars" as it were, apparently share a depth of congruency across traditions. For example, satori in Zen expresses the true nature of reality as transitory and empty (the "Real"), only revealed by dissolving the encrustations of self; metaphoric vehicles embodied in koans strive to convey this "expansive emptiness" permeating all things/experiences; and the nature of enlightened experience suggests the vibrant "suchness" of things, entwined as they are with change and perishing. In similar depth of spiritual experience, mystic forms of Christian grace convey the true nature of reality through love (*agape* as the highest form of love); such experience is often enshrouded in deeply metaphoric images and prose (as found, for example, in the writings of St. John of the Cross); and when the shift in experience comes (the receiving of grace or charity), it is an enflamed state of being that dissolves the ego via humility, opening oneself to the "aliveness" of the world (for example, St. Francis of Assisi's sense of the enchantment of nature).

## **GOODENOUGH, EMERGENCE, AND BEYOND**

In this final section I outline a speculative framework synthesizing the ideas

harnessed from Serres, Polanyi, complex-system thinking, and embodied approaches to cognition. One further element is introduced into the mix to bind these ideas together. That element comes from Ursula Goodenough's writings on religious naturalism. The strongest affinities occur between Goodenough's religious naturalism and Polanyi's philosophical framework. Phil Mullins writes that at "the very end of her book [*Sacred Depths of Nature*], Goodenough summarizes her themes around what she dubs four 'emergent religious principles' (167)" (Mullins 2001, 40).

The first emergent principle is that "[h]uman beings raise big questions about the universe and her response is 'to articulate a covenant with Mystery' (167). Responses to questions of ultimacy are deeply personal and beyond proof or refutation, but she suggests that asking questions of ultimacy 'is to generate the foundation for everything else' (169)" (Mullins 2001, 40). This first principle coheres not only with Polanyi's emphasis on the personal element of all knowing, but more saliently with how our deepest commitments (here concerning questions of ultimacy) can ground and guide our exploratory projects—what I think is best characterized as a pursuit of spirituality that expresses a hypergood undergirding all other goods (whatever that path may be).

The second emergent religious principle is that "the religious naturalist holds thankfulness to be a basic human response .... What Goodenough says is important is that 'gratitude flows from our beings' (169) and not whether it is directed to God, Mystery, Cosmic Evolution or some other being, direction or object" (Mullins 2001, 40). The second principle more generally fits with Polanyi's claim that any form of knowing makes impassioned commitments, whose subsidiary structure orients and "colors" our focal objects of attention. Gratitude here reflects a commitment to focal wholes larger than ourselves, where thankfulness can only be dwelled and engaged in as part and parcel of the very commitment made.

The third emergent principle holds that "[e]volution, as Goodenough has portrayed it, is a deep and sacred story that calls forth reverence. As a religious naturalist, she says 'we are called to revere the whole enterprise of planetary existence, the whole and all of its myriad parts as they catalyze and secrete and replicate and mutate and evolve' (170)" (Mullins 2001, 40). Polanyi's ideas on the ever-expanding realm of what tacit knowing projects, as a matter of increasing emergent levels of what he terms "comprehensive entities," resonate with the general ecological tenor of Goodenough's naturalism. In particular,

Polanyi's notion of the expanding hierarchy of comprehensive entities is irreducibly bound up with our fiduciary projects, and the respect and even reverence it calls for would be enacted by the structure of the commitments made.

The last emergent principle Goodenough proposes is “that evolution ... has already produced creatures with awareness that acknowledge value and purpose .... She claims as an article of ‘Faith’ that ‘existence of all this complexity and awareness and intent and beauty, and my ability to apprehend it, serves as the ultimate meaning and the ultimate value’ (171)” (Mullins 2001, 40). Such value and purpose are centrally built into Polanyi's account of tacit knowing (specifically its meaning and focal character). Furthermore, those familiar with Polanyi will clearly recognize here the similarities to his non-divisive stance regarding tacit knowing's indefinite spectrum of ways of knowing—ways that encompass considerations regarding complexity, awareness, intent, aesthetics, apprehension, etc. All of these ways are made possible by the structure of tacit knowing, as dynamically exhibited in lived experience. Thus Mullins notes that in similar fashion to Goodenough, “Michael Polanyi expanded philosophy of science in a way that showed it must be woven with *Lebensphilosophie*” (Mullins 2001, 40-1).

With these four emergent principles of religious naturalism and their deep parallels to Polanyi, we can also weave in Serres' ideas and the ideas concerning embodied wisdom and embodied spirituality to form a new synthetic framework (with hopeful hybrid vigor). This speculative framework views the pursuit of spirituality as an embodied pursuit not of just any ideal (regulative, constitutive, transcendent, or otherwise), but crucially as a pursuit outlining an embodied *place* (as opposed to a disembodied notion of “space,” for which there is no metaphorical home). This place is characterizable as an emergent and complex plane of spiritual being, whose complexity is intertwined with its heterogeneity—it is a pluralistic, emergent plane of overflowing complexity that can accommodate transcendent forms of contemplative experience (e.g., beatitude, states of grace, mystic unions, and so forth) as well as immanent forms of awakening (e.g., satori, pure experience, certain forms of flow, and so forth) exhibiting a different sort of transcendence (what is sometimes called “horizontal transcendence” as contrasted to the former “vertical transcendence”; see Goodenough 2001). I speculate that synthesizing Goodenough's four emergent religious principles with the other ideas yields a picture of a

heterogeneous yet “homeomorphic” plane of spiritual, emergent being. The “homeomorphic”<sup>7</sup> aspect brings together into *one place* the recognition of a significant similarity of experience and what is tacitly expressed or projected via that experience, even if such experience may not be wholly capturable in language. Yet particular experiences will differ by tradition, beliefs, and so on, and so such a place/plane of spirituality will be heterogeneous, as there will be differing regions of personalistic experience (say that of a Christian mystic versus a Daoist sage). In brief, there are many paths, and while they can lead to the same place, the twist here is that this place is not quite unity but more akin to a plurality—at least when looked at *from the perspective of what sustains* its emergent nature. For it is only via our personalistic commitments enacted and lived, as diverse as they are, that it becomes possible for consummate forms of spiritual being to emerge. Even stronger, and more precisely, this emergent plane of “pluralistic” being is sustained by that very heterogeneity *in conjunction with* its homeomorphic dynamism—and in this sense, when looked at *from the perspective of its emergent nature*, there is also a kind of “unity” via plurality.

At this point the objection might be raised that in Goodenough’s writings she is broadly spiritual and perhaps only secondarily religious, as her own preference is closer to secular spirituality, or naturalized religion. In a paper on vertical and horizontal forms of transcendence, Goodenough suggests that her emergent religious naturalism can be aligned with the horizontal form, where an “aesthetics of horizontal transcendence is about responding to the nature of nature with attunement and participation and delight” (Goodenough 2001, 26). Before addressing this objection concerning horizontality/secularity, it should first be noted how her orientation can be strengthened by the strands coming from Serres and Polanyi. The aesthetic dimension that Goodenough highlights as a path to horizontal transcendence is, in a sense, the starting place for Serres’ recovery of the overflowing pre-thetic dimensions of lived experience and the chaotic complexity of the real. Serres’ works go into far greater detail and depth

---

<sup>7</sup> Briefly, in mathematics, a homeomorphism is a topological mapping that preserves all the topological features of a given space. Two spaces with a homeomorphism between them are called homeomorphic, and thus are “equivalent” or the same, but in a more robust sense than a mere isomorphism. For a homeomorphism also preserves other higher-order features beyond simply “1-to-1” mappings. Thus as *metaphorically* applied here, even if two seemingly incongruous frameworks (e.g., one considered religious and another secular) don’t have clear, surface-level 1-to-1 mappings, at the level of consummate spiritual experience they can still have homeomorphic relations despite such apparent incongruity. Thus they can arrive at the same *general place* even if their “spiritual topologies” appear rather different.

concerning the “aesthetic” dimensions of this sort of chaotic realism. And responding to complexity (or Goodenough’s “nature of nature”) with attunement, participation, and delight highlights Polanyi’s emphasis on the tacit dimension of fiduciary knowing, where only thorough indwelling can one then come to have an embodied aesthetic experience concerning the nature of nature (or the realization of a hidden reality one seeks to make contact with). As with Serres’ works, Polanyi’s writings go into far greater detail and depth concerning how knowing operates, and how Goodenough’s sort of horizontal knowing would operate to make contact with the world.

To close by responding to the above objection, this synthetic, speculative framework can strengthen Goodenough’s approach and additionally can accommodate vertical forms of transcendence (see also Goodenough 2001, 30), suggesting an approach where heterogeneity is seen not as a weakness but as a strength, recognizing the richness and vibrancy of spirituality as a personalist plane/place. Indeed, Polanyi’s heterarchical dynamic orders of being express a kind of hierarchy that accommodates vertical forms of transcendence as well as horizontal; and Serres’ reflections on chaos and complexity also crisscross any flat rendering of vertical “versus” horizontal forms of transcendence. While perhaps Polanyi is closer to the vertical forms and Serres to the horizontal, neither characterization suffices. A new framework is needed acknowledging the strengths of both while expanding beyond. We ought not to have to decide between apparent incongruous conceptions of transcendence, vertical or horizontal (or mixtures thereof).

The sketch of the speculative framework in this final section suggests a kind of robustness in a “pluralistic-unity,” as it were, that embraces diversity at the level of emergent spiritual being—a place whose beauty signifies the open-ended spectrum of human potentialities worth dwelling upon, with hopeful attunement, participation, and delight. Those who indwell at these highest regions of human possibility are, however, transfiguratively different from the majority of us, some of whom reflect upon and write about the contours of human experience. If such reflection in comparison to true “heavenly wisdom” is but straw, as Aquinas would have us believe, so be it. But it would still be nice to have an arrangement of “straw” through which we might steal a glimpse, across space and time, of a place of enchantment, if ever so obscurely. For authentic spirituality resides there, placing us already at home in the cosmos, beyond any modern narrative seeking a re-enchantment of the world. In this way

elements of both modern and ancient views can come to co-exist, if only because the frontiers of consummate spiritual exploration have already been broached by humanity's elite creators-and-discoverers—our embodied exemplars of sages, saints, and spiritual masters.

## References

- Auyang, Sunny. 1998. *Foundations of Complex-system Theories: In Economics, Evolutionary Biology, and Statistical Physics*. New York: Cambridge University Press.
- Ball, Philip. 2015. "The Strange Inevitability of Evolution."  
<http://nautil.us/issue/20/creativity/the-strange-inevitability-of-evolution>
- Barbour, Ian. 1990. *Religion in an Age of Science*. San Francisco: Harper & Row.
- . 2000. *When Science Meets Religion*. San Francisco: Harper & Row.
- Bennett, Jane. 2001. *The Enchantment of Modern Life: Attachments, Crossings, and Ethics*. New Jersey: Princeton University Press.
- Berman, Morris. 1981. *The Reenchantment of the World*. New York: Bantam Books.
- Berressem, Hanjo. 2005. "'*Incerto Tempore Incertisque Locis*': The Logic of the Clinamen and the Birth of Physics." In *Mapping Michel Serres*, ed. Niran Abbas, 51-71. Ann Arbor: University of Michigan Press.
- Connor, Steven. 1999. "Michel Serres's Five Senses."  
<http://www.stevenconnor.com/5senses.htm>
- Fuller, Robert. 2001. *Spiritual, but Not Religious: Understanding Unchurched America*. New York: Oxford University Press.
- Gelwick, Richard. 2005. "Michael Polanyi's Search for Truth." *Zygon: Journal of Religion and Science* 40(1):63-76.
- . 2014. "From Tacit Knowing to a Theory of Faith." *Tradition and Discovery* 40(1):10-20.
- Goodenough, Ursula. 1998. *The Sacred Depths of Nature*. New York: Oxford University Press.
- . 2000a. "Reflections on Scientific and Religious Metaphor." *Zygon: Journal of Religion and Science* 35(2):233-240.
- . 2000b. "Exploring Resources of Naturalism." *Zygon: Journal of*

- Religion and Science* 35(3):561-566.
- . 2001. “Vertical and Horizontal Transcendence.” *Zygon: Journal of Religion and Science* 36(1):21-31.
- . 2003. “Religious Naturalism and Naturalizing Morality.” *Zygon: Journal of Religion and Science* 38(1):101-109.
- . 2005. “Reductionism and Holism, Chance and Selection, Mechanism and Mind.” *Zygon: Journal of Religion and Science* 40(2):369-380.
- Graham, Gordon. 2007. *The Re-Enchantment of the World: Art versus Religion*. New York: Oxford University Press.
- Griffin, David Ray, ed. 1988. *The Reenchantment of Science: Postmodern Proposals*. Albany: SUNY Press.
- Hadot, Pierre. 1995. *Philosophy as a Way of Life: Spiritual Exercises from Socrates to Foucault*, ed. Arnold Davidson, trans. Michael Chase. New York: Blackwell.
- . 1998. *The Inner Citadel: The Meditations of Marcus Aurelius*, trans. Michael Chase. Cambridge: Harvard University Press.
- . 2002. *What is Ancient Philosophy?* trans. Michael Chase. Cambridge: Harvard University Press.
- Harris, Sam. 2014. *Waking Up: A Guide to Spirituality without Religion*. New York: Simon & Schuster.
- Hass, Lawrence. 2008. *Merleau-Ponty’s Philosophy*. Bloomington: Indiana University Press.
- James, William. 1902. *Varieties of Religious Experience*. New York: Longmans, Green.
- Johnson, Mark. 1987. *The Body in the Mind: The Bodily Basis of Meaning, Imagination, and Reason*. Chicago: University of Chicago Press.
- . 2014. *Morality for Humans: Ethical Understanding from the Perspective of Cognitive Science*. Chicago: University of Chicago Press.
- Juarrero, Alicia. 2014. “Downward Causation: Polanyi and Prigogine.” *Tradition and Discovery* 40(3):4-15.
- Kauffman, Stuart. 1995. *At Home in the Universe: The Search for Laws of Self-Organization and Complexity*. New York: Oxford University Press.
- . 2000. *Investigations*. New York: Oxford University Press.
- . 2008. *Reinventing the Sacred: A New View of Science, Reason and Religion*. New York: Oxford University Press.
- Kavanaugh, Thomas. 1986. Review of *Les Cinq Sens* by Michel Serres. *MLN*

- 101(4): 937-941.
- Lakoff, George. 1987. *Women, Fire, and Dangerous Things: What Categories Reveal about the Mind*. Chicago: University of Chicago Press.
- Lakoff, George and Mark Johnson. 1999. *Philosophy in the Flesh: The Embodied Mind and Its Challenge to Western Thought*. New York: Basic Books.
- Landy, Joshua and Michael Saler. 2009. *The Re-Enchantment of the World: Secular Magic in a Rational Age*. Stanford: Stanford University Press.
- Latour, Bruno. 1988. "Enlightenment without the Critique: A Word on Michel Serres' Philosophy." *Royal Institute of Philosophy Supplements* 21: 83-97.
- Lowney, Charles. 2010. "From Morality to Spirituality: Society, Religion and Transformation." *Tradition and Discovery* 37(1):19-38.
- . 2013. "From Epistemology to Ontology to Epistemontology." *Tradition and Discovery* 40(1):16-29.
- Mullins, Phil. 2000. "The Real As Meaningful." *Tradition and Discovery* 26(3):42-50.
- . 2001. "The Sacred Depths of Nature and Ursula Goodenough's Religious Naturalism." *Tradition and Discovery* 28(3):29-41.
- Polanyi, Michael. 1974. *Personal Knowledge: Towards a Post-Critical Philosophy*. Chicago: University of Chicago Press.
- Polkinghorne, John. 1998. *Science and Theology: An Introduction*. Minneapolis: Fortress Press.
- Prigogine, Ilya. 1980. *From Being to Becoming: Time and Complexity in the Physical Sciences*. San Francisco: W.H. Freeman.
- Prigogine, Ilya and Isabelle Stengers. 1984. *Order Out of Chaos: Man's New Dialogue with Nature*. New York: Bantam Books.
- Rutledge, David. 2015. "Who Was Michael Polanyi?: A Primer for Poteat Scholars." *Tradition and Discovery* 42(1):10-17.
- Salisbury, Laura. 2006. "Michel Serres: Science, Fiction, and the Shape of Relation." *Science Fiction Studies* 33: 30-52.
- Serres, Michel. 2000. *The Birth of Physics*, trans. Jack Hawkes and ed. David Webb. Manchester: Clinamen.
- . 2009a. *The Five Senses: A Philosophy of Mingled Bodies*, trans. Margaret Sankey and Peter Cowley. New York: Continuum.
- . 2009b. "Epilogue: What Hearing Knows." In *The Re-Enchantment of the World: Secular Magic in a Rational Age*, ed. Landy and Saler, 259-273.

- Stanford: Stanford University Press.
- Serres, Michel and Bruno Latour. 1995. *Conversations on Science, Culture, and Time*, trans. Roxanne Lapidus. Ann Arbor: University of Michigan Press.
- Shapiro, Lawrence. 2011. *Embodied Cognition*. New York: Routledge.
- Spretnak, Charlene. 1991. *States of Grace: The Recovery of Meaning in the Postmodern Age*. San Francisco: Harper & Row.
- . 1997. *The Resurgence of the Real: Body, Nature, and Place in a Hypermodern World*. Reading: Addison-Wesley.
- Taylor, Charles. 1989. *Sources of the Self: The Making of the Modern Identity*. Cambridge: Harvard University Press.
- . 1991. *The Ethics of Authenticity*. Cambridge: Harvard University Press.
- . 2004. *Modern Social Imaginaries*. Durham: Duke University Press.
- . 2007. *A Secular Age*. Cambridge: Belknap Press of University of Harvard Press.
- Thompson, Evan. 2014. *Waking, Dreaming, Being: New Light on the Self and Consciousness from Neuroscience, Meditation, and Philosophy*. New York: Columbia University Press.
- Tiles, Mary and Jim Tiles. 1993. *An Introduction to Historical Epistemology: The Authority of Knowledge*. Cambridge: Blackwell.
- Toulmin, Stephen. 1990. *Cosmopolis: The Hidden Agenda of Modernity*. New York: Free Press.
- Wheeler, John and Kenneth Ford. 1998. *Geons, Black Holes, and Quantum Foam: A Life in Physics*. New York: W.W. Norton.