



Living Earth Community

Multiple Ways of Being and Knowing

EDITED BY

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19. The Human Quest to Live in a Cosmos¹

Heather Eaton

The cosmos is also within us. We are made of star-stuff. We are a way for the universe to know itself. (Carl Sagan).²

Introduction

Throughout human history, there is a steady, even unrelenting, lure to understand the facets of the ‘orders of reality’. Humans look outward, to touch and gauge the limits of reality, to perceive its ethos and telos. The quest to observe and fathom the exterior edges of reality has been central to religious, scientific, and philosophical inquiry and meaning making over millennia. The quest to live in a cosmos is more than knowledge: it is an orientation to living within Earth now. It represents many journeys: an outward journey to the boundaries of the universe, Earth’s journey, the human journey, and the interior journey of integrating these together.

a) Exterior Quest: Where Are We?

The expansiveness and entanglement of time, space, and materiality are mesmerizing actualities. There is a steady, even unrelenting, lure to apprehend the facets of the ‘orders of reality’, that enable us to see

1 This is an abridged version of a chapter of the same title in *Encountering Earth: Thinking Theologically with a More-Than-Human World*, ed. by Trevor Bechtel, Matt Eaton, and Tim Harvie (Eugene, OR: Wipf and Stock Publishers, 2018), pp. 227–47.

2 ‘The Shores of the Cosmic Ocean [Episode 1]’, *Cosmos: A Personal Voyage*, PBS, 28 September 1980.

or perceive *where* we are. For Thomas Berry, the expansiveness and essence of the world — cosmos, Earth, time, space, and processes — are central to knowing anything meaningful about being human.³ In order to respond to the ecological crisis, which is planetary, it is necessary to know the history, origins, and dynamics of planet Earth. Earth has its origins in the dynamics and processes of the universe.

The universe—the farthest realm of the exterior quest—is understood with increasing clarity. Scientific modes of inquiry progressively detect the dynamic processes, interconnections, and expansions of the universe. What is increasingly astonishing is that everything about the universe is so much more than assumed or imagined previously. Evidence abounds about the complexities, diversifications, and the development sequences of transformations, and the intricacies and inter-relatedness of the emergent universe. It is also increasingly apparent that the universe is integral: unified without being uniform. There is a cohesiveness within the astonishing diversity found in how the universe functions, including in the birth and death of stars, and galaxy and planetary formations.

Overall, in these vast exterior realms of reality, there are patterns, processes, developmental sequences, transformations, evolutions, intensifications and complexifications. For example, in the transformation from the atomic to the molecular structures, a further degree of intensity develops in these new physical arrangements. One could say reality complexifies. Furthermore, it is entangled. Although each discipline explains particular processes in discrete separated categories, if we step back, it is evident that they are interconnected and interdependent processes. How could it be otherwise? Thus, scientists are using terms such as emergent complexity, entanglement, coherence, correspondence, congruence, or intelligibility to describe the overall coordination within the universe.⁴

Coherence and integration are also seen in the evolution and functioning of the biosphere. The biosphere is best described, and

3 Thomas Berry, *Dream of The Earth* (San Francisco, CA: Sierra Club Books, 1988). For a full bibliography of Thomas Berry's works see <http://thomasberry.org/life-and-thought/bibliography>. See also *The Intellectual Journey of Thomas Berry: Imagining the Earth Community*, ed. by Heather Eaton (Lanham, MD: Lexington Press, 2014).

4 Karen Barad, *Meeting the Universe Half-Way: Quantum Physics and the Entanglement of Matter and Meaning* (Durham, NC: Duke University Press, 2007), <https://doi.org/10.1215/9780822388128>

explained, with inter-related processes, networks of connections, correspondence, mutual influences, and communication from the molecular and cellular to the planetary processes. More is known about the boundaries of exterior realities than ever before. One outcome of making this knowledge public and accessible is to amplify and intensify human consciousness about 'where we are'. Thus, humans are becoming more conscious of the universe and Earth. For Berry, there is an urgent need to consider how to interpret this new knowledge of the universe.

The cosmos cannot be seen as a backdrop to the human drama, or as a context, an unfolding, a progression or a potential. It is not like an embryo that matures into fullness. It is more a becoming: not linear and determined, but creative and dynamic, yet, seemingly, with an orientation. As the universe develops, it becomes more: more complex, interactive, entwined, vibrant, and intense. That is why, for Pierre Teilhard de Chardin and Berry, the best image is that the cosmos is a cosmogenesis. This implies forms of continuity and coherence between cosmogenesis, geogenesis, and biogenesis. In the same manner, evolution is a process or dynamic of the biosphere from which *homo sapiens* evolved, with a form of self-reflexive symbolic consciousness that is able to perceive that these forms of genesis are ongoing. There is coherence and continuity.⁵

What Berry realized is that this is radically new knowledge. The reference points for understanding the universe, Earth, ourselves, and our role within the scheme of things all change with this new knowledge. To understand anything, we need to grasp, even at a basic level, that the universe is a primary source and reference. Everything about Earth evolved and developed from cosmic processes. All aspects of *homo sapiens* evolved and developed from Earth processes. To say that Earth formed or produced us is inadequate language. We emerged from and are a conscious living part of Earth realities. By extension and extrapolation, the most apt description of the universe is that it is alive.⁶

In this vein, the expansion of human consciousness into the cosmos is also the universe and Earth becoming conscious in humanity. Put

5 This is not uniformity, or intelligent design where the configuration was predestined.

6 A magnificent exposé of this understanding is in Mary Evelyn Tucker and John Grim's edited volume, *Living Cosmology: Christian Responses to the Journey of the Universe* (Maryknoll, NY: Orbis, 2016).

differently, it is the universe reflecting on itself in human form, or that humans are a mode of self-consciousness of the universe. To understand and integrate that we are a self-conscious element of a living cosmos is a great challenge. The quest to live in a cosmos is thus a dynamic of the cosmos, and encounter with the cosmos. One way is to enter into this interpretive zone is to see how this exterior quest to know the cosmos is also an interior quest.

b) Who Are We? Exteriority Becomes Interiority

Of the myriad ways to broach this topic, the basic point is an extension of the above: the quest to understand the largest parameters of reality is intimately involved with 'who we are' in the scheme of things, and also with the interior modes of knowing. Of the countless ways to consider interiority, I have two comments related only to this chapter's theme. The first remark is about a fusion between exteriority and interiority. Here I am indebted to and influenced by significant aspects of the thought of Teilhard de Chardin. In terms of interiority, Teilhard contemplated an intimacy between the *without* and the *within of things*.⁷ The without is the observable. This includes the structures and changes from the establishment and bonding arrangements of atomic structures, to the formation of molecules and mega molecules out of which arose and evolved all matter. The starting point for understanding the without is the discernable atomic structures and behaviours. Teilhard sought, and developed, a theory that connects structure and activity with processes and purposes of the developmental transformations. He pondered these as a whole, meaning he would not separate anything from its structures, activities, developments, and directionality.

For example, Teilhard studied bacteria cultures in this manner, and then plants. He explained that for plants, the without and observable cannot explain the life dynamics of plants. With insects it is yet more difficult, with vertebrates it is futile, and, with humans, it breaks down completely. As life evolved, the without of things — the observable — becomes increasingly incapable of explaining the

7 This concept is introduced and developed throughout Pierre Teilhard de Chardin, *The Human Phenomenon*, trans. by Sarah Appleton-Weber (East Sussex, UK: Sussex Academic Press, 1999).

behaviour, development, intensifying complexity and evolutionary directionality. Some form of interiority, 'within of things', *élan vital*, vitality, subjectivity, *Geist*, *qi* is increasingly present, active, effective, and, indeed, essential, everywhere.

This within of things, its interiority, is a subtle, nuanced union of matter, energy, spirit, and telos that coheres the interior dynamics with the transformations to increasing levels of complexity. The within of things is manifested in the overall orientation and processes that compel atoms to transform to molecules, to form planets, Earth, an atmosphere and biosphere, to life, consciousness, and self-consciousness. Herein we see something similar to the congruence, intelligibility, and coherence mentioned above.

Teilhard used the term consciousness with many qualifications. Consciousness itself is differentiated and evolves, from nascent traces to that of life and mind. Inert matter does not have consciousness *per se*, although through his lengthy discussions of the within of things, Teilhard maintained that something interior, not observable yet clearly present, moves the process of evolution. Overall, in *Le Phénomène Humain* [The Human Phenomenon], he wanted to write the natural history from the without and the within of things, which combined spirituality and science. This was predictably contentious for both disciplines. For me, however, it was cogent, brilliant and beautiful, and reverberated deeply with my quest.

There is a further aspect to Teilhard's thought that is important to appreciate in his elegant blend of science, religiosity, and poesis. Each stage of evolution is nascent in the previous, but not in a simple embryonic or potential form. There are critical changes that alter the very ontology of reality. For example, in the transformation from the atomic to the molecular structures, the new arrangements of the parts required the acquisition of another dimension — a further degree of interiority — that allowed reality to complexify. Every evolutionary development requires an intensified and differentiated structure that corresponds to a more subtle and supple concentrated interiority and consciousness. Scientifically, reality thickens, deepens, and crosses new ontological thresholds. Spiritually, interiority intensifies and amplifies.

Berry concurred that there must be differentiated forms of interiority within the processes of the universe, Earth, and the biosphere.

These dynamics are the creative energies interior to all sequences of transformations. These relationships between the without and within of things, between exterior and interior dynamics and processes, occur at all times and are intensified at every development phase. Berry used the language of differentiation, subjectivity, and inter-relatedness to convey a similar insight. What is relevant here is that many of the intuitions that Teilhard proposed are being verified through science, although described with different language and not interpreted in a spiritual framework.⁸

A second remark is about interior awareness. How are we to absorb these new findings about where and who we are? Even the most hard-nosed evolutionary scientists must accept that life emerged from Earth dynamics: from the interior of cosmic and planetary processes. By extrapolation, the same must be said of consciousness, self-consciousness, and symbolic consciousness. Therefore, it is logical to claim there is an emergent interiority: highly differentiated among species. Yet, while the observations and logic are difficult to deny, the implications are far-reaching and do not fit neatly into most operative worldviews.

To study evolution is to realize that the biosphere thrives in integrated and inter-dependent relations, from the interwoven atmospheric, climate and water systems to fractal patterns and cellular dynamics. The complexity and ingenuity of Earth processes such as self-organizing dynamics, natural selection, emergence, symbiosis, and co-evolution become apparent. Earth enlivens interconnected webs of bacteria, insects, plants, animals and their related social patterns, and forms of consciousness. To attend to evolution, even minimally, is to be dazzled. Earth's intricacies animate the human imagination. The immense and elaborate planetary hydrologic cycle is stunning and breath-taking. From the microbiotic and genetic levels to the dinosaurs, the processes and life forms are astonishing. To see the elegance of birds, the ingenuity of insect communication, and the emotions of mammals is to be thrilled

8 For example see Lynn Margulis and Dorion Sagan, *Dazzle Gradually: Reflections on the Nature of Nature* (White River Junction, VT: Chelsea Green Publishing, 2007); Lynn Margulis, *The Symbiotic Planet: A New Look at Evolution* (New York, NY: Basic Books, 1998); Ursula Goodenough, *The Sacred Depths of Nature* (New York, NY: Oxford University Press, 2000); Elisabet Sahtouris, *Earthdance: Living Systems in Evolution* (San José: iUniverse Publication, 2000).

and overwhelmed by the creativity, diversity, power and beauty. These intimate immensities nourish human depths, or at least they could.

All animals, including humans, need first to be understood as differentiated yet integrated living elements of a whole. To grapple with the implications of evolutionary complexities propels a momentous perspectival shift. Elsewhere I have described this as the revolution of evolution.⁹ It is my view, and experience, that becoming aware of the extraordinary dynamics of evolution can open up the possibility of profound depth or religious experiences. Such experiences allow a glimpse into a world of stunning elegance, of mysteries and adventure, of vistas beyond our knowing. The natural world inspires wonder and awe: a kind of power available to all who attend carefully to the natural world. The movement of the stars, the presence of mountains, the invigorating quality of ocean waves fills us with feelings of celebration and reverence. The eloquence of Abraham Joshua Heschel is worthy of a pause:

Awe is an intuition for the dignity of all things, a realization that things not only are what they are but also stand, however remotely, for something supreme. Awe is a sense for the transcendence, for the reference everywhere to mystery beyond all things. It enables us to receive in the world intimations of the divine, [...] to sense the ultimate in the common and the simple; to feel in the rush of the passing the stillness of the eternal. What we cannot comprehend by analysis, we become aware of in awe.¹⁰

We are moved, like Teilhard de Chardin, to claim we live in a divine milieu and that matter, spirit, and life are intertwined in a sacred process. We can see a deeper reality: one that kindles the imagination, awakens us to the Earth, and ignites a fire and desire to protect the biosphere. Familiarity with evolution can open awareness or consciousness to Earth mysticism, a blend of the best of science and religion.¹¹

9 Heather Eaton, 'The Revolution of Evolution', *Worldviews: Environment, Culture, Religion*, 11.1 (2007), 6–31, <https://doi.org/10.1163/156853507x173478>

10 Abraham Joshua Heschel, *I Asked for Wonder: A Spiritual Anthology*, ed. by Samuel Dresner (New York, NY: Crossroad, 1997), p. 3.

11 Two unrelated Kauf(f)mans have written on these topics. Stuart Kauffman, *Reinventing the Sacred: A New View of Science, Reason and Religion* (New York, NY: Perseus, 2008), and Gordon Kaufman, *In the Beginning: Creativity* (Minneapolis, MN: Fortress, 2004).

This kind of description is uncommon, and is unacceptable in many academic discourses. It is too subjective, too emotive and imprecise. It becomes a kind of ecopoiesis, and then is readily dismissed. We are accustomed to the separation of scientific, philosophical, ethical, and aesthetic modes of inquiry, and to academic parlance that is verifiable and solemn. Attributed to the great Mark Twain is this apropos comment: 'the researches of many commentators have already thrown much darkness on this subject, and it is probable that if they continue we shall soon know nothing at all about it'.

Our habitual modes of thought and language categories, especially in academia, are inadequate for this synthesis of knowledge, insights, and affectivity. Hyper-rational modes of inquiry are restrictive. Customary intellectual tools that measure, define, analyze, critique, and deconstruct hegemonies have limits. These intellectual processes, while valuable, neither come from nor speak to the depth of human interiority. Hence, they cannot illuminate what is being learned of the comprehensiveness and coherence of the universe. My preferred mentors (Gaston Bachelard, Teilhard, Berry, Heschel) had a great appreciation for many modes of knowing and perceiving, including dreams, stories, imagination, and poesis. Other sensibilities — such as emotions, intuitions, insights, presentiments, wonder, and wisdom — are valid indicators of knowledge. Interiority and depth perceptions are a place of great vitality, elasticity, and inventiveness.

The human pursuit to understand the cosmos is both an exterior and interior quest. There is an interior aspect to the dynamics and processes, and it is in interiority that we experience the universe. Those who quest to live in a cosmos, experience the cosmos. The intimate immensities of the cosmos are perceived or intuited within these interior expansions of symbolic consciousness of the self. It becomes evident, over time, that this is an encounter. It is possible to learn the data and remain unmoved, but as Bachelard would point out, there has thus been no passionate liaison, no affectivity. The material imagination is not engaged, and only the inferior functions of the intellect, cognition, and rationality are involved.

There are myriad continuities between the breadth of knowledge of the living universe and a depth of inner awareness. This new knowledge expands interiority, and magnifies consciousness. If we can absorb it,

our horizons enlarge, our awareness heightens, and our religious sensibilities intensify. Again, Heschel says it best:

We can never sneer at the stars, mock the dawn or scoff at the totality of being. Sublime grandeur evokes unhesitating, unflinching awe. Away from the immense, cloistered in our own concepts, we may scorn and revile everything. But standing between earth and sky, we are silenced by the sight.¹²

c) How Are We to Live? To Live in a Cosmos

It was in these exterior and interior quests that Berry saw a way forward to respond to the ecological crisis, with a transformed cultural orientation. His intellectual acumen as a historian of religions and culture, and his astute awareness of religious experiences, poiesis, scientific knowledge and so much more became embedded in his dream of the earth and cosmological proposal. This was not for the purpose of expanding knowledge and consciousness. He shaped and interpreted the knowledge to activate dimensions of interiority to respond to the escalating ecological and social crises.

Our cultural and religious maps are not functioning in the interests of a vital biosphere. How are we sure? Look at what is happening to Earth. Look at our economic systems, at the escalating violence, the war on terror, the war on women, consumerism, and billion-dollar arms industries while people starve or have no health care. Anthropogenic climate change is now recognized, but action plans are gridlocked among competing interests and powerful lobbies. Post-truth discourse, fake news, and alternative facts are dulling human sensibilities and shrinking inner and outer horizons of meaning. There is much discussion about why we cannot move effectively on ecological issues.

We cannot perceive an adequate orientation towards the planetary demands of the present. For Berry, responses lie within the cultural visions, social imaginaries or stories. The current versions are dysfunctional in their larger social and ecological dimension, and are not providing direction for a viable future. What stories could give guidance for our era? What gives us an exterior and interior orientation to integrate the most we can know about where we are, and who we

12 Heschel, *I Asked for Wonder*, p. 2.

are? The response here is that it is the universe and Earth, in all their complexities, majesty, diversities, and exigencies that educate and orient the deep sensibilities of the human animal. Religion and science need to collaborate to perceive the psychic-spiritual dimensions intimately interwoven in the physical-material. In order to respond to current challenges, we need to appreciate the magnitude and magnificence of existence. To live in a cosmos is to experience it as intimate immensities, which illuminate a path, and radiate radical openness. To live in a cosmos, the emergent universe, as the primary reality, can offer such an orientation. The cosmos is not just 'out there'. It is also within. If we can discover our role in these larger evolutionary processes, there may be hope, as Rachel Carson maintained:

The more clearly we can focus our attention on the wonders and realities of the universe about us, the less taste we shall have for destruction.¹³

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¹³ Rachel Carson, *Lost Woods: The Discovered Writings of Rachel Carson*, ed. by L. Lear (Boston, MA: Beacon Press, 1998), p. 163.

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