

Chrysalis

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Dear Reader,

In Spring of 2020, we began our four-part series devoted to Thomas Berry's call to "reflect that a fourfold wisdom is available to guide us into the future: the wisdom of indigenous peoples, the wisdom of women, the wisdom of classical traditions and the wisdom of science."¹ With this issue we explore the Wisdom of Science at a time when the very word "science" is ever before us.

When Thomas Berry speaks of the *Wisdom of Science*, he is always bringing two dimensions of conscious human experience together through an image of *The Dream of the Earth*.

The first dimension is a macrocosmic dimension where we bring into awareness the epic of evolution in an act of ecstasy, or an expansion of Self to Cosmos. The second dimension is a microcosmic dimension where we "return to the depths of our own being"² in an act of enstasy, or return of Self to Source.

The word Wisdom, as applied to science, comes into being for Thomas when these two dimensions are brought into a marriage with one another – when *The Dream of the Earth* is seen as expressing itself through phenomenal reality over time, accessed both by our capacity to bring into consciousness the epic of evolution and also by our capacity to be intimately present to the phenomenal reality before us.

Thomas was not speaking of a materialist or purely physical understanding of biological and historical evolution here, but rather he was speaking of an integral psychic, spiritual, and physical understanding of evolution that includes a numinous dimension – a living universe comprised of what he called "modes of consciousness."³

¹Thomas Berry, *The Great Work: Our Way Into the Future* (New York: Bell Tower, 1999), 180.

²Thomas Berry, *The Sacred Universe: Earth, Spirit, and Religion in the Twenty-First Century* (New York: Columbia University Press, 2009), 55.

³Thomas Berry, *The Dream of the Earth* (San Francisco: Sierra Club Books, 1988), 82.



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Thomas was acutely aware that science, as we have known it, brings with it both a promise and a temptation. The promise has to do with cultivating harmony between the human capacity for knowledge and the sacred unfolding of the universe. The temptation has to do with confining science to innovative and utilitarian purposes that subjugate nature and serve only the “progress” of a society focused solely on human comfort.

The Wisdom of Science, then, is that place where the cosmic story and the human story come together in a new depth of understanding. This is not only a new consciousness but also a new way of understanding conscience.

A wise science, for Thomas, is a revelatory science.

*Never before have any people carried out such an intensive meditation on the universe and on the planet Earth as has been carried out in these past few centuries in our Western scientific venture. Indeed, there is a mystical quality in the scientific venture itself. This dedication, this sacred quest for understanding and participation in the mystery of things, is what has brought us into a new revelatory experience.*⁴

For Thomas, a wise science reveals a quality of subjectivity that is pervasive throughout the universe:

*A new sense of the sacred dimension of the universe and of the planet Earth is becoming available from our more recent scientific endeavors. The observational sciences, principally through the theories of relativity, quantum physics, Heisenberg's uncertainty principle, the sense of a self-organizing universe, and the more recent chaos theories have taken us beyond a mechanistic understanding of an objective world. We now know that there is a subjectivity in all our knowledge and that we ourselves, precisely as intelligent beings, activate one of the deepest dimensions of the universe. Once again we realize that knowledge is less a subject-object relationship than it is a communion of subjects.*⁵

⁴Thomas Berry, *The Sacred Universe*, 116.

⁵Ibid, 106.

Thomas speaks often about moving beyond the “mechanistic fixations in the human psyche”⁶ into the realm of awakening, vivifying and resuscitating the deeper realities of *The Dream of the Earth*. On the microcosmic level, Thomas calls for a new sympathetic presence that will take us beyond objectification into a full, participatory science of the future:

Both to know and to be known are activities of the inner form, not of the outer structure of things. This inner form is a distinct dimension of, not a separate reality from, the visible world about us. To trivialize this inner form, to reduce it to a dualism, or to consider it a crude form of animism is unacceptable as would be the attribution of the experience of sight to a refinement of the physical impression carried by the light that strikes the eye, or the reduction of the communication inherent in a Mozart symphony to vibrations of the instruments on which it is played.

One of the most regrettable aspects of Western civilization is the manner in which this capacity for inner presence to other modes of being has diminished in these past few centuries.”⁷

In this issue of *Chrysalis*, we focus on the realm of “inner presence to other modes of being” with two articles by graduates of our Inner Life of the Child in Nature program, Eric McDuffie and Renée Eli.

In his piece, “Dialoguing with Earth,” Eric explores the phenomenology of Merleau-Ponty and the inner presence of fly fishers to modes of being in the piscatorial life-world.

In “Toward a Science that Re-enchants and Shepherds,” Renée reveals a history of the scientific endeavor that moves us beyond “objectivity” toward a science in communion with all that is.

Pax Gaia,



Peggy Whalen-Levitt, Director

⁶Thomas Berry, *The Dream of the Earth*, 16-17.

⁷Thomas Berry, *Evening Thoughts: Reflecting on Earth as Sacred Community* (San Francisco: Sierra Club Books, 2006), 40-41.

Dialoguing with Earth

by

Eric McDuffie

I recall the first day I ever held a fly rod as if it was yesterday. It was my third birthday, April 3, 1969. My grandfather walked up beside me and handed me a shiny red Sears and Roebuck fly rod and reel and said, “Let’s go fly fishing!” I didn’t know it then, but that initial invitation – one that was offered again and again – would have a profound impact on me. Throughout my childhood, almost every weekend was spent fly fishing with my grandfather on the pristine lakes and rivers of central North Carolina. Sitting together in our 16 foot aluminum johnboat, the trolling motor slowly moving us forward down tree-lined banks, we would cast our lines again and again along overhanging bushes, fallen trees, and sandy flats in search of monster bluegills, pumpkinseeds and shellcrackers. Sometimes we got a bite, other times we didn’t. But, regardless of our productivity, we always had nature unfurling there before us, as if in a time lapse.

It was during these quiet reflective moments with my grandfather, fishing our local lakes and streams, that I began to feel a gravitational pull to the natural world. It was no surprise, then, that eighteen years later I started my undergraduate studies in Biology at the University of North Carolina at Chapel Hill, the very school that my grandfather had dreamed would one day be my alma mater. But now that I have all those years behind me and can call upon the wisdom of hindsight, I am beginning to understand why my grandfather and I kept returning so faithfully to those lakes and rivers. I believe there was a communion taking place between ourselves and the natural world, and fly fishing had served as the medium. Standing there with the line zipping over our heads, we were in the act of dialoguing with the earth and her various elements – be they water, air, fish or soil. And, although this communion may have been unconscious at the time, it nonetheless had a profound impact on my current understanding of how crucial it is that just such a dialogue be made available to others. This communion becomes increasingly imperative when considering the health of our planet today.

Throughout the course of his writings and lectures, the most influential writer I have ever known – cultural historian Thomas Berry – spoke of the Earth and universe as a “communion of subjects”:

...qualities that we identify with the human are also qualities that we observe throughout the natural world. Even at the level of the elements we observe self-organizing capacities, also the capacity for intimate relationships. These reveal astounding psychic abilities. These are so impressive that we must consider that

modes of consciousness exist throughout the universe in a vast number of qualitatively diverse manifestations. Above all we discover that every being has its own spontaneities that arise from the depths of its own being. These spontaneities express the inner value of each being in such a manner that we must say of the universe that it is a communion of subjects, not a collection of objects.

Precisely in this intimate relationship with the entire universe we overcome the mental fixation of our times expressed in the radical division we make between the human and the other-than-human. This fixation that I have described as the unfeeling relation of the human to the natural world is healed at its deepest roots as soon as we perceive that the entire universe is composed of subjects to be communed with, not primarily objects to be exploited. This communion experience is, I believe, universal. It can be observed in the immediate reaction of almost anyone who simply looks at the ocean or sunset or at the heavens at night with all the stars ablaze, or who enters a wilderness area with its foreboding as well as its entrancing aspects.¹

As a child I was blessed with this inter-subjective communion experience through the sacred art of fly fishing with my grandfather, which lives deeply in my memory. On October 11, 2015, I wrote a retrospective piece addressed to my grandfather after he died. The setting is the Cow Pasture where he and I spent so many hours in communion with the natural world when I was a child:

Good morning Granddaddy. It feels wonderful being here with you right now while those stiff northern gusts of October wind push us along our favorite spot on Lake Holt. You know where I am. Yes, I look across the Cow Pasture where we fly fished together every Saturday morning. In my mind's eye I feel the tug of those big bream on the end of my fly rod and smell the musky odor of creation unfolding beneath me in those clear shallow bluegill spawning beds of yesteryear. It seems like it was just a few seconds ago when we stumbled upon this sacred and happy patch of water together. All those times we drove by this bank where we started our early Saturday morning over there on the other side of the lake. Isn't it ironic how our favorite spot where we always started off our fly fishing Saturdays together in my childhood days would always begin with you and me at the right hand corner of the bank just across the way, within hollering distance from where we are right now? Don't worry, Granddaddy. You know I will head over there next. I can see those big bream right now lurking under those wild thorny rose bushes and purple mountain laurel just waiting for their favorite yellow popping bug and black gnat to sink into their strike zone.

Well Gramps, we both know why I am here today. It's all about the bream; those colorful strong swimming butterbeans that gave us thousands of hours of pure fly fishing pleasure during my childhood years. I have a burning question I must get answered as part of the work I am currently doing in my two fall classes at Antioch University New England. The central question I am investigating here from my capstone Ecology Lab class asks: "Is the current population of bream in our favorite lake at, below, or above the North American Standard for bluegill species?" I suspect they will be either at or above the North American Standard, as we both know how big and beautiful all those bream used to be. I do hope the times have not changed. And we also know the bream never got any bigger than when they were spawning on those hundreds of bream beds here along the Cow Pasture.

¹ Thomas Berry, *The Great Work: Our Way into the Future* (New York: Bell Tower, 1999), 82.

Finally, I've got one! She is much smaller than what I am used to catching here in the Cow Pasture, Granddaddy, even though they are not on the spawn right now. Let's see here little girl. Let's get your length, weight, and a couple of scales behind your operculum. There you go. See you again in the spring when you are guarding your eggs right here below me. I wonder why the fishing in the Cow Pasture is so slow today! I guess it must be this high pressure system blowing those sharp northerly winds and me down the Cow Pasture too fast. We both know how stiff wind gusts belly up the fly line and make the presentation not nearly as natural as when she is lying down more gently. I also think the big bull bream are now lying along the secondary shelf running down the length of the Cow Pasture. Plus, all that rain we got last weekend must also be affecting the bite. That's okay. You know I will still find them Granddaddy. You definitely taught me to stay patient and persistent in the pursuit of the bluegill until I find them. There he is! Man, he hit that yellow popping bug hard! Come here buddy! I knew you would not let me down, beautiful Cow Pasture. You never have before. Thanks again, Granddaddy, for all you taught me. I sure do miss you and love you a lot. He sure is beautiful Granddaddy, just like it is with you here with me right now.

This living experience of a “communion of subjects” between myself, my grandfather, and the piscatorial subjects dwelling in the watery world affirms what Thomas Berry said: “The unfeeling relation of the human to the natural world is healed at its deepest roots as soon as we perceive that the entire universe is composed of subjects to be communed with, not primarily objects to be exploited.”² From my own life experiences, I recognize the sacred art of fly fishing as a pathway to healing “the unfeeling relation of the human to the natural world.”

Aligned with Thomas Berry's acknowledgement of “the inner value of each being” is the work of phenomenologist Merleau-Ponty, “that places essences back within existence.”³ Merleau-Ponty, working in the lineage of phenomenologists coming before him like Edmund Husserl and Martin Heidegger, wrote that phenomenology “in the end is nothing more than making explicit the *Lebenswelt* (life-world) that Husserl, toward the end of his life, presented as the fundamental theme of phenomenology.”⁴ For Merleau-Ponty, “phenomenology involves describing, and not explaining or analyzing,” saying that to “return to the things themselves...is first and foremost the disavowal of science.”⁵

Merleau-Ponty did not want to fall into the trap of science explaining the whole of the world, as he knew that before science could even enter the picture as a “second-order expression,”⁶ everything one comes to know about the world through lived experience comes before scientific thought or expressions: “Science neither has nor will have the same ontological sense as the perceived world

² Ibid.

³ Maurice Merleau-Ponty, *Phenomenology of Perception* (New York: Routledge, 2012), ix.

⁴ Ibid., ixxi.

⁵ Ibid.

⁶ Ibid., ixxi.

for the simple reason that science is a determination or explanation of that world.”⁷ Therefore, according to Merleau-Ponty:

*I am the one who brings into being for myself – and thus into being in the only sense that the world could have for me – this tradition that I choose to take up or this horizon whose distance from me would collapse were I not there to sustain it with my gaze... To return to the things themselves is to return to this world prior to knowledge, this world of which knowledge always speaks, and this world with regard to which every scientific determination is abstract, signitive, and dependent, just like geography with regard to the landscape where we first learned what a forest, a meadow, or a river is.*⁸

Fly fishers are natural phenomenologists. With silence and attentiveness, they enter the piscatorial life-world and unite themselves with the “essence” or “inner value of the world.” For fly fishers, as for Merleau-Ponty, “every perception is a communication or a communion... a coupling of our body with the things.”⁹

Fly fishing has the capacity to produce oral and written stories as a cultural phrasing of our lived experiences. Our perceptions capture the moments we wish to express with others and never lose. First, “we must live the things in order to perceive them.”¹⁰ Second, “the miracle of the real world is that in it sense and existence are one, and that we see sense take its place in existence.”¹¹ And, third, “the real stands out against fictions because in the real sense surrounds matter and penetrates it deeply,”¹² deep enough to capture our real stories as a product of our perceptual awareness.

The first written account of reciprocal and reflective fly fishing ever produced was written in 1653 by Sir Izaak Walton. He wrote *The Compleat Angler – or The Contemplative Man’s Recreation*. A literary masterpiece, *The Compleat Angler* is widely recognized as the “Fly Fisher’s Bible,” serving as the second most published book in the English speaking language following the *Holy Bible*. It provides the first encounter of deeply held nature connections through acts of reflective angling and serves as a structural marker to begin understanding how fly fishers might engage in a unifying practice. Walton wrote, “Rivers and the inhabitants of the watery element were made for wise men to contemplate, and fools to pass by without consideration.”¹³

Two centuries later, fly fishing as a reflective practice continued to hold ground and found expression in Genio C. Scott’s *Fishing in American Waters*.¹⁴ In a section titled “Antiquity of the

⁷ Ibid.

⁸ Ibid.

⁹ Ibid., xxv.

¹⁰ Ibid., 340.

¹¹ Ibid., 338.

¹² Ibid.

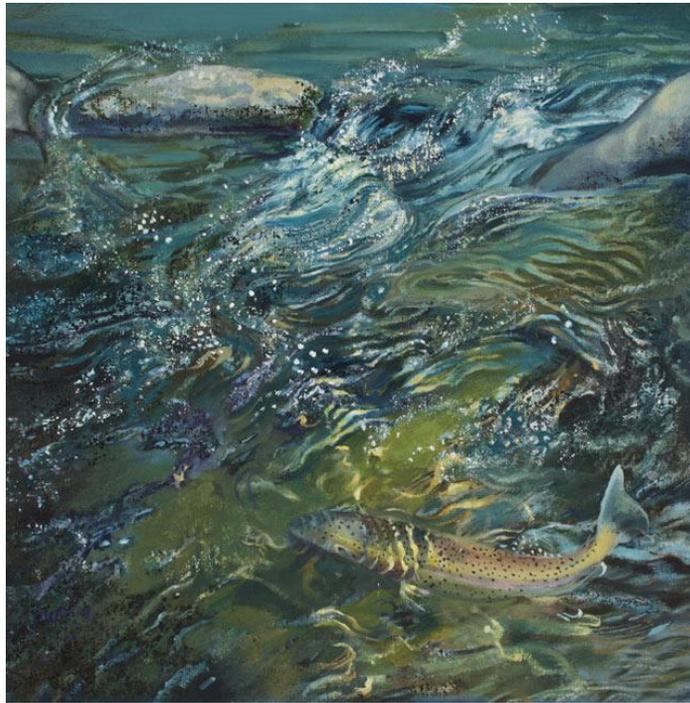
¹³ Izaak Walton, *The Compleat Angler, or The Contemplative Man’s Recreation* (New York: The Random House Publishing Group, 2004), 25.

¹⁴ Genio C. Scott, *Fishing in American Waters* (New York: Orange Judd Company, 1875).

Gentle Art,” Scott invites the reader to contemplate his or her surroundings when angling in any type of water:

But who can catalogue the pleasures which cluster around the angler’s pursuit? He pursues his avocations amid scenes of beauty. It is he who follows the windings of the silver river, and becomes acquainted with its course. He knows the joyous leaps it takes down the bold cascade, and how it bubbles rejoicingly in its career over the rapids. He knows the solitude of its silent depths, and the brilliancy of its shallows. He is confined to no season. He can salute Nature when she laughs with the budding flowers, and when her breath is the glorious breath of spring. The rustling sedges make music in his ear when the mist has rolled off the surface of the water, or the dew been kissed from the grass by the sun’s rays.¹⁵

Scott conveys to his reader his thoughts about the beauty we can see as we spend time alone within the watery world, flying fishing the flowing rivers. The majestic sound heard through the rushing water and the calm wind heard moving through the surrounding forest is felt when it flutters across the angler’s face. Freedom in solitude enters the fly fisher’s mind, ushering in a healthy look back at nature surrounding him when fly fishing the streams in hopes of connecting with his piscatorial companion.



Adele Wayman, *Rainbow*, oil stick and oils on canvas, 18 x 18 inches, 2013

¹⁵ Ibid., 142.

This living tradition continues in the twentieth century. In 1930, distinguished literary scholar and fly fisherman, Odell Shepard, graced us with *Thy Rod and the Thy Creel*, one of the most elegant musings ever to honor the angling community. In his writing, Shepard tacitly recognizes the principles of differentiation, subjectivity and communion that are intrinsic to what anglers might experience while fly fishing. For example, Shepard wrote, “What can we desire more when standing knee-deep in a mountain river, fly rod in hand, with trout on the rise? Here he has earth and air and sky before him, strangely interfused and woven into one element. The brook runs over the bones of the planet and carries the sky on its back, so that it is a complete world, and one who gazes into the crystal long and steadily will find there not food and drink but work and play, patience and excitement, knowledge and wisdom, fact and dream.”¹⁶ Here, Shepard insightfully recounted a small piece of the universe he sensually valued, felt and reflected upon while fly fishing; perhaps not even realizing that his lived experience embodied the three principles that Thomas Berry recognized as “the reality, the values and the directions in which the universe is proceeding.”

Later in the century, R. Palmer Baker published *The Sweet of the Year* in 1965.¹⁷ “The Sweet of the Year” is a phrase many fly fishers have used over the centuries to evoke the beginning of the spring, when hungry fish begin to come out of winter dormancy. This is a time when the breath of life along the streams, rivers, and lakes transforms from a slow moving and quiet hibernating winter to an explosion of aquatic life forces saturating spring’s waterways with movement, bright color changes bursting with new life, frenzied fish feeding activity, and hurried reproductive spawning. The author’s love and connection with nature’s sublime beauty is perfectly expressed in the following excerpt:

*On an April evening the wind comes softly from the south. The angler reaches the countryside with his friends. Stepping from the car, he smells the damp earth and feels the wind. Then suddenly the sweetness is upon him. From the pools and swamp meadow across the road he hears the peepers, the little frogs of spring, singing as though their lungs and hearts would break.*¹⁸

As Baker steps out of his car to suddenly hear a chorus song of melodic sounds emanating from multitudinous aquatic species surrounding the watershed, he breathes the living Earth’s moist soils encapsulating those inter-subjective life forces coming into his olfactory awareness in all directions. This moment touches his conscious awareness and flows through his consciousness before he even has time to think. Merleau-Ponty would have situated this sensual inter-subjective scene within a field of presence as Baker’s flow of consciousness permeated outward into the subjective world surrounding and enveloping his sensual nature.

¹⁶ Odell Shepard, *Thy Rod and Thy Creel* (Piscataway: Winchester Press, 1984), 54.

¹⁷ R. Palmer Baker, *The Sweet of the Year – One Man’s Enjoyment in Fly-Fishing* (New York: William Morrow & Company, 1965).

¹⁸ *Ibid.*, 107.

The impact of this kind of dialogue with Earth on the life of a child is nowhere more finely described than in Harry Middleton's *The Earth is Enough – Growing Up in a World of Flyfishing, Trout, and Old Men*, published in 1989.¹⁹ Although the characters names are changed, the story is a true account of Middleton's childhood growing up through the Vietnam era of the 1960s. Just before the war broke out, Harry's Army father sent him away from Okinawa, Japan and back home to the Ozark Mountains of Arkansas to live out his childhood years with his Grandfather Emerson, Uncle Albert and their Native American friend, Elias Wonder. Technological changes swept across the land like locusts all around them, but these three determined men were somehow able to salvage the simple life for themselves as they passed their fly fishing experiences on to Middleton.

They lived off the land as simple farmers, grew and sold crops to their township to make ends meet, hunted on their sprawling mountainous countryside, and above all, fly fished every nook and cranny of their heavenly stream, Starlight Creek. This cold running mountain stream meandered down and across crystal clear plunge pools throughout their deciduous forested land. They constantly gave thanks in their own profound ways for how nature's beauty and bounties constantly entwined their lives.

Emerson and Albert were simple men. Their entire lives were spent living on this piece of backwoods mountain terrain, taking care of it like two lone shepherds tending their flock of sheep – in this case their wild mountain trout. Middleton recalls watching the men at night lose themselves in memory, which they called “journeying.”²⁰ As a boy, Middleton began to understand “that when they had lived with the land as long as they had, there came a point in time when the land became a part of them as much as they had become a part of it. The union, if not perfect, was inexorable.”²¹

A primordial silence constantly weaved its way throughout the story for Middleton and his elders as he wrote, “They wanted only the solitude the land freely gave. The solitude of Starlight Creek soothed them; it was not a self-imposed prison but a natural sanctuary, real and boundless along the shadowy banks of the swift-moving creek.”²² And then there was another profound statement written like this: “The old men fished for many reasons, I suppose, but angling gave them no greater reward than solitude, the priceless pleasure of spending unencumbered time along a cold stream in the presence of trout. No other bounty they had known matched these moments of quiet during which they desperately tried to smuggle themselves, in spirit if not in body, back into the natural world, the place where they were most at ease, truly at home.”²³ Even going so far as describing the primordial silence as their place of worship, Middleton wrote, “like anxious, spiritually ravenous pilgrims, they travelled to the creek each day, in every season, as much in pursuit of solace

¹⁹ Harry Middleton, *The Earth is Enough – Growing Up in a World of Flyfishing, Trout and Old Men* (Portland: West Winds Press, 1989).

²⁰ *Ibid.*, 44.

²¹ *Ibid.*

²² *Ibid.*, 57.

²³ *Ibid.*, 68.

as trout. It was their presbytery, their mosque, their basilica, their bethel, their sacrarium.”²⁴ Here is where the artistic fly fishing realm became sacred in its own right.

Emerson and Albert lived their entire lives in this hallowed sanctuary they called home, but they constantly needed to understand more and more deeply what the land was saying to them, calling them forward to constantly listen and witness its intimate connections. The land never ceased to teach them newer and deeper meanings of their purpose with it through each passing day, pulling them forward into their surroundings. For example, Middleton wrote, “Albert and Emerson had lived on the creek all of their lives and yet neither man professed to know it, understood its moods. Instead, they thrived on the creek’s limitless ability to astonish, beguile, enrapture, startle. It heated their blood, filled them with anticipation. Each day on the creek meant new journeys, fresh introductions, different discoveries, one heaven lost and another found.”²⁵

Middleton recalled a dark night he fly fished in Starlight Creek, “casting nymphs into the soothing darkness, the interminable blackness where flashed the eyes of bobcats and raccoons, where the owls in the deep woods howled like dogs, where the deer moved through the high country...I did not give in, but stayed in the creek cast after cast, each one an act of faith, a communion between me and the cold and the night and stream’s great trout.”²⁶ Earth’s communion of rhythms constantly beat into his conscious soul. This universally reciprocal rhythm was spoken and taught to Middleton by Elias Wonder:

*In the moonlight, I studied the deep wrinkles in (his) face. The light softened his hard features. In a voice as faint as a feathering breeze, he began to talk, still working the rod, the rod length of line he had worked out. ‘You can feel it can’t you?’ he said, and the words lingered on the wind. He waited for a moment, not wanting to interrupt the chattering whippoorwills on the hillside or the groaning frogs on the banks. ‘Rhythm’ he said, drawing out the word. He moved deeper into shadow, became, for a time, ephemeral, a bodiless but soothing voice. ‘Ever notice how everything out here has rhythm to it? Creek got a rhythm all its own, just as the trout have one they move to, a rhythm in the blood.’ Rhythm. The word echoed in my head, drilled into my blood, and I watched the old Indian and knew, finally, he was teaching me, sharing a secret: rhythm. The blending motions of stream, trout, rod, line, drifting fly, and man...I lost all sense of time, of place, of everything. Concentration absorbed me. Never had I felt such a consoling aloneness...Even though I was but a boy, I knew standing there in the stream that, from then on, things would be different. It was not that the world changed, but that I had changed in some fundamental way that I could not understand or undo. I felt, too, a sense of actually becoming, belonging. If my life as a refugee was not over, at least it had changed in both direction and purpose.*²⁷

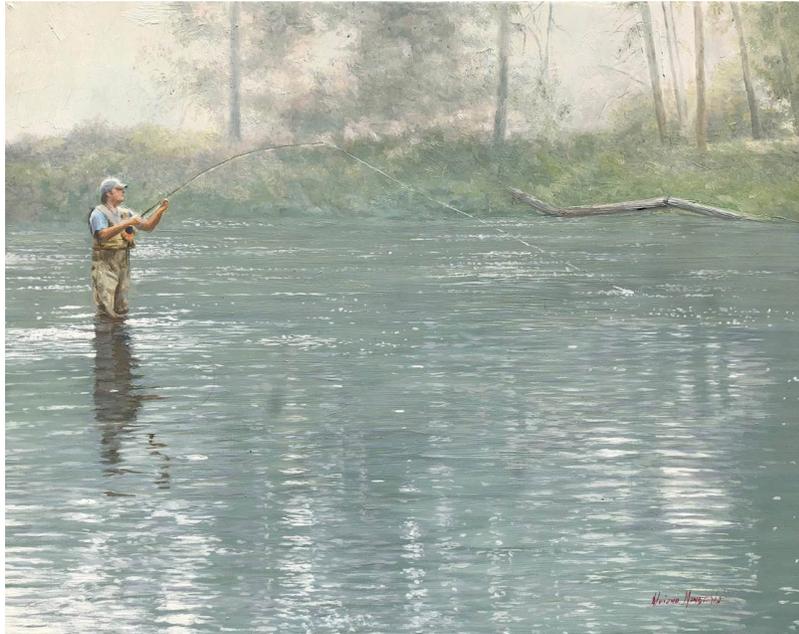
²⁴ Ibid. 69.

²⁵ Ibid., 71.

²⁶ Ibid., 92.

²⁷ Ibid., 93-96.

The lived experiences of fly fishers, especially the experiences of a child, bear witness to Merleau-Ponty's recognition that "every perception is a communication or a communion" and to Thomas Berry's understanding that "the entire universe is composed of subjects to be communed with." Fly fishing is a pathway for healing the separation between human beings and the Earth. It serves as an experiential portal for us to connect more intimately, mutually, and inter-subjectively with the natural world.



Adriano Manocchia, *Eric on Battenkill*

Eric McDuffie is a PhD student in Environmental Studies at Antioch University New England. Eric has been inspired by his childhood experiences of fly fishing with his grandfather and the writings of Thomas Berry to devote himself to the creation of contemplative fly fishing programs for children, young adults, and families that embody a sense of the sacred. Eric earned a BS in biology with a secondary science teaching certification from UNC-Chapel Hill, followed by a master of environmental management degree at Duke University's Leadership Program within the Nicholas School of the Environment. For over a decade he taught middle and high school environmental science and has twice received Environmental Educator of the Year honors from the state of North Carolina. Eric leads the Center's "Sacred Art of Fly Fishing" Program. He graduated from the Center's Inner Life of the Child in Nature program in 2016.

Adriano Manocchia, a fly fisher and highly praised fine art artist, is also the author of *Water, Sky and Time*. His work can be viewed at adriano-art.com.

Adele Wayman, a fly fisher herself, is a painter and creator of installations and alters. Her work can be viewed at www.adelewayman.com.

Toward a Science that Re-enchants and Shepherds

by

Renée Eli

In these opening years of the twenty-first century, as the human community experiences a rather difficult situation in its relation with the natural world, we might reflect that a fourfold wisdom is available to guide us into the future: the wisdom of indigenous peoples, the wisdom of women, the wisdom of the classical traditions, and the wisdom of science. We need to consider these wisdom traditions in terms of their distinctive functioning, in the historical periods of their florescence, and in their common support for the emerging age when humans will be a mutually enhancing presence on the Earth.

~ Thomas Berry, *The Great Work*

Over a period of months, I have contemplated the possibility of science as a wisdom tradition. A certain doubt, perhaps, is what found me steeping in the waters of reflections that poured through cultural historian and visionary Thomas Berry, among others. It was not until I sat down to write this essay that a question appeared: *What kind of science re-enchants and shepherds humanity toward the promise of a future?* I would not understand the question until I began to explore it, recognizing all the while that this question concerns not only the promise of a human future. This question concerns as much the future of all life on Earth.

Even if human interests are singularly human-focused, we cannot escape pressing concern for the totality of life on Earth. It is the largess of life as the “creative interpenetration of sentient beings” that makes possible our very existence.¹ This interpenetration makes itself apparent in manifold ways: as the countless single-celled organisms teeming beyond what the naked eye can see, breathing life as they do into an Earth surface wholly endowed over millennia with carbon, out of which plants emerge and flower and bear fruit on land and in the seas and become the cellular matrices of our bodies and those of trillions more microbes that inter-exist as each of us; it is apparent as the vast web of roots intertwined with an equally vast network of fungi that circulate the Earth’s waters and innervate the “biologically excited layer” of the Earth’s outermost crust;² it is apparent as every bodied creature making way through air and water and upon land that, too, become our flesh and feeling and carry forth the voice of life in communion with our own; it is apparent by the revelations of science, made possible by the people who do science, struck with

¹ Andreas Weber, *The Biology of Wonder: Aliveness, Feeling, and the Metamorphosis of Science* (Gabriola Island, BC: New Society Publishers, 2016), 14.

² Daniel D. Richter and Daniel Markewitz, "How Deep Is Soil?" *BioScience* 45, no. 9 (1995): 600-609. <https://doi.org/10.2307/1312764>

wonder, perhaps, at the astounding glory of all these as one magnificent whole that ushers meaning into our existence and keeps us from the overwhelming despair that would overtake us were we to find ourselves here alone.³

Yet we find ourselves alone in our capacity to desecrate. And we find ourselves alone in the uncompromising need to make urgent our response at an ever-pressing threshold. Over the past four hundred years, through technologies conceived and carried out at the hand of science, the human being has managed to make so toxic the air and water on which all existence is dependent that we have catalyzed a loss of planetary life we are only beginning to glimpse. We might find ourselves arrested by an impulse to look away. Let us not. Doing so will neither save the planet nor our own species. We cannot escape the deleterious effects of poisoning the Earth so. We have only to peek inside the homes and hospitals of our immediate communities besieged with the burgeoning of chronic diseases from the Western way of life to perceive that something is awfully awry.

We know this story of devastation. We not only hear it in a growing clamor of urgent warnings. We feel it inside our own skin. Human technologies are stressing the planet to the brink and in the process, making humans sick the world over as peoples take on evermore the Western way. Once, medicine sought principally to overcome the plight of famine and pestilence—neither of which are any less concerning now.⁴ Even so, today our healthcare systems are besieged principally by ailments from failing immune and endocrine systems that cannot stay apace the biological endeavor to adapt to the stress of environmental defilement.⁵ The pandemic that began at the close of 2019 has exposed—dreadfully so—the vulnerability of the body at the hands of human ingenuity gone beyond the bounds of biology. It has given us a glimpse at the indignity of civilization’s seemingly limitless thrust into the wilds of nature only to sacrifice the creatures whose blameless existence we humans have encroached upon. It has unveiled the morass of an immediacy of being elsewhere by aero-flight that at the same time brings us ever closer to one another in ways that dissolve geographical and political boundaries and unite humanity as one. It has intimated reasonable doubt about the soldiering on of human progress in ways that seem to bring forth a question of conscience. By conscience, I mean not an externally imposed morality dictating the rights and wrongs of peoples. By conscience, I mean the open- and tender-heartedness to “meet all those inner sufferings” of existence.⁶

³ Thomas Berry offers a brief reflection on the loneliness that awaits human beings in a world absent the presence of wilderness creatures in *Evening Thoughts: Reflecting on Earth as Sacred Community*, edited by Mary Even Tucker (San Francisco: Sierra Club Books, 2006).

⁴ Vivian Nutton, “Medicine in the Greek World, 800–50BC,” in *The Western Medical Condition: 800 B.C.–1800 A. D.*, edited by Lawrence Conrad, Michael, Neve, Vivian Nutton, Roy Porter and Andrew Wear, (New York: Cambridge University Press, 1995), 11–38.

⁵ Bryan S McEwen, “Stress, Adaptation, and Disease: Allostasis and Allostatic load.” *Annals of the New York Academy of Science* 840, no. 1, 1998:33–44.
<https://doi.org/10.1111/j.1749-6632.1998.tb09546.x>

⁶ P. D. Ouspensky, *In Search of the Miraculous: Fragments of an Unknown Teaching* (New York: Harvest Book Harcourt, 1949/2001), 156.

Unambiguously, what the climate crisis and devastation of the Earth reveal, and what the pandemic makes unmistakably lucid, if we may be so brave as to look with an open and tender heart, is that all of humanity is at the abiding mercy of all of humanity. All of life as one whole self-creating corpus is at our mercy. In the words of Thomas Merton, “We are members of one another and everything that is given to one member is given for the whole body.”⁷ That this is so has always been so. My life and your life pass through and into and open upon one another and all others as close as the touch of two hands; the distance the eye travels to meet the words on this page; the waking birdsong that caresses my ear, and yours; a cloud formation over a field of flowers brushed by honeybees who thirst for rain made sweet by the dance of sunshine, soil, and the divine spark of florescence; as close as the cry of a child wanting to be held safely at the farthest reaches of this, our great blue planet. Our interpenetration is the living permeation of being. That this is so is a revelation of science.

Even so, an amplifying “disenchantment with science”⁸ can be heard today echoing in every hall and corner of Western civilization. I have been among those who have decried science as we have come to know it, even as one with a background in science. And still, Thomas was quite convinced that science is not only necessary for the promise of a future. For Thomas, there is wisdom to be found in this tradition that has made possible the technologies we have come to both rely on and assail.⁹ Wisdom is a possibility offered by science as a revelatory mode of the universe itself. Wisdom comes through understanding and acting in accordance with that understanding. It is Thomas’ conviction regarding this wisdom that inspired my inquiry about a science that *re-enchants* and *shepherds* humanity toward the promise of a future.

In this essay, I circle round, wander, and wonder through the writing in what might be termed a ‘hermeneutic spiral’, never quite sure where the process of inquiry is taking me, and therefore, you, Dear Reader, trusting nevertheless a presence to the formed question itself and the spiral of interpretation that is at once deepening and opening on these pages. We meander in conversation with Thomas, among others, drawing intentionally upon their words as a mode of communion. We wind along currents of the human experiment of science, inviting further inquiry at every apparent turn. In this way, we become participants in the human unfolding of scientific revelation.

Science Birthed of the Modern Age Becomes A Reflection of Enfoldment

Science as a wisdom tradition is only in its beginning phase, even though scientific knowledge has advanced with amazing success ever since the sixteenth century

~ Thomas Berry, *The Great Work*

⁷ Thomas Merton, *Seeds of Contemplation* (Norfolk, Conn: New Directions Books, 1949). 42.

⁸ Weber, *Biology of Wonder*, 13.

⁹ Thomas Berry, *The Great Work: Our Way into the Future* (New York: Bell Tower, 1999).

Thomas professed a careful critique of the ethos and technologies borne out of the Modern Age, the fullness of which paved the way for humans to “manipulate our environment to our own advantage.”¹⁰ The West would come to bear a scientific attitude resting on dualistic notions of mind and matter, mechanism, reductionism, and empirical objectivity. These are ideas I unfold here in ways I hope reflect how it is that we have lost faith in the promise of science. If it is so that science is still in its infancy, as Thomas suggests, we might refrain from losing hope in its prospect to re-enchanted and shepherd us. We may come to recognize that science reflects the human psyche. The unfolding of the human *informs* the science that may deliver us to the promise of a future. *We* are the science of the future. To orient us toward such a future, we must necessarily trace and understand where we have been so that we may act in accordance with what we now see.

The psyche of the early human was imbued with a sense of everywhere flickering aliveness, an aliveness primordial and sacred, the human experience awash with reverie.¹¹ This diaphanous way of experiencing the world came into being with the coming into being of the human. Albeit modified, the divine vision voyaged into Western civilization and endured through the medieval period, manifested through “revelatory experiences of a spiritual realm both transcendent and imminent in the visible world about us.”¹² Nicolaus Copernicus’ (1473–1545) revelation in 1543 that the Earth moves around the sun changed all that, wholly tilting the Western orientation about our place in the cosmos. We would become “cosmologically estranged,” unmoored from our unmoving place in the center, untethered from the heart of the universe as we then knew it.¹³ This stupefying shift was the dawn of the Modern Age. Science, as we would come to know it, was given its first breath. And world without purpose would become our very own.

Copernicus unearthed a cascade that would forever alter human perception and set course for a new order, an order that spawned “denial of the spiritual realm.”¹⁴ Francis Bacon (1561–1626) “proposed that through experiments with nature, we could learn about just how nature functions and through this knowledge we could control nature rather than be controlled by nature.”¹⁵ René Descartes (1596–1650) effectively “desouled the Earth with his division of reality between mind and extension.”¹⁶ We were left with a human body and more-than-human world wholly separate and divided from, indeed, void of mind. That which is not mind is akin to machine, for Descartes. The split of mind from matter brought forth dualism, mechanism, and reductionism. Dualism severs

¹⁰ Thomas Berry, *The Dream of the Earth* (San Francisco: Sierra Club Books, 1988), 40.

¹¹ Jean Gebser, *The Ever-Present Origin*, translated by Noel Barstad and Algis Mickunas (Athens, OH: Ohio University Press, 1949/1985); Rudolph Otto, *The Idea of the Holy: An Inquiry into the Non-rational Factor in the Idea of the Divine and Its Relation to the Rational*, translated by John W. Harvey (London: Oxford University Press, 1936).

¹² Berry, *Great Work*, 185.

¹³ Richard Tarnas, *The Passion of the Western Mind: Understanding the Ideas That Have Shaped Our World View* (New York: Ballantine Books, 1991), 418.

¹⁴ Berry, *Great Work*, 191.

¹⁵ *Ibid*, 191–192.

¹⁶ Berry, *Great Work*, 78.

reality and as such, annihilates the experience of wholeness. Mechanism gave us a worldview that life is the effect of extrinsic cause, void of intrinsic basis, meaning, and purpose.¹⁷ Reductionism holds that the ground of reality can be explained if we but ultimately find the final, common irreducible part.

Galilei Galileo (1564–1642) and Isaac Newton (1643–1727) were concerned with the physical forces governing the universe. Galileo insisted that all of nature can be understood mathematically. From him, we inherited an empirical method of experimentation that remains the measure by which all ‘good science’ is judged today. Newton pushed Cartesian mechanism to new degrees, issuing an “explanation of the universe simply by mechanistic forces acting in a random fashion.”¹⁸ The West came to exist in an “objective world, [. . .] a world clearly distinct from ourselves and available not as a means of divine communion, but as a vast realm of natural resources for exploitation and consumption.”¹⁹ This was a “‘solid world’ way of seeing.”²⁰ Such a way of seeing is akin to bringing “the living present out of the past, *life out of death*.”²¹

The new experience was a reflection not only of *what* was revealed. The new experience birthed an entirely novel *way* of seeing the world and developing knowledge. A scientific attitude emerged, shifting radically the Western understanding of how knowledge comes to be and what constitutes ‘truth’. A new science would overturn the extant “mystical vision of divine reality.”²² It would override an undergirding impulse toward “sympathetic evocation of natural and spiritual forces by ritual and prayerful invocation.”²³ The new scientific story and with it a crescendo of technologies that followed to our own time would make possible the human “capacity to determine on an extensive scale whether the basic life systems of the earth will live or die.”²⁴

The experimental method is the foundation of modern science. This method relies on testing what is not yet understood to be true to see if it is. Science does this by observation. Evidence of what is observed then proves or disproves what the scientist set out to establish as true or not true. From their conclusions, new ideas and knowledge are issued in the form of theories. The trouble is we have a tendency to hold theories as *fact* and so we believe them to be unshakably true. We might, instead, come to recognize theories as *new ways of seeing* that emerge inside the eye–mind of the observer and make it possible, once articulated, for others to see the world as such. A theory, then, is “primarily a form of *insight*.”²⁵ It is “not a form of *knowledge* of how the world is.”²⁶ Understood

¹⁷ Tarnas, *Passion of the Western Mind*, 418.

¹⁸ Berry, *Sacred Work*, 44.

¹⁹ Berry, *Dream of the Earth*, 40.

²⁰ Henri Bortoft, *The Wholeness of Nature: Goethe’s Way toward a Science of Conscious Participation in Nature* (Hudson, NY: Lindisfarne Press, 1996), 171.

²¹ *Ibid.*

²² Berry, *Dream of the Earth*, 40.

²³ *Ibid.*

²⁴ *Ibid.*, 52.

²⁵ David Bohm, *Wholeness and the Implicate Order* (New York: Routledge, 1980/2004), 4.

²⁶ *Ibid.*

in this way, we recognize that new ways of seeing continue as an ever-unfolding story of the universe itself through the human.

The scientific method of today still rests on the notion that quantifiable observations are ‘value-free’. The word observation comes from the Latin *observare*, meaning, ‘to attend to’, ‘to look at’ or ‘watch’. To observe, then, is to step outside of, making no room for participation *with*. A scientist endeavors to eliminate the human element from experimentation. The scientist, in this scenario, is an onlooker, a bystander.²⁷ The resulting conclusions are believed to be objective. As such, the scientific method supposes to bring certainty. But the hope of avoiding bias can never bear fruit, because every touch of evidence is interpreted by a human being who had an originating “organizing idea” in the first place.²⁸ Which means, every touch of evidence stirs inner feeling. No analysis is without human interpretation. The empirical scientist is not a passive bystander. The empirical scientist is an active participant in the inquiry, method, and conclusions, and therefore, any perceived knowledge borne of science. Refusing the human element in the ‘good science’ of the Modern Age refuses what we now understand about the nature of reality, that the observer interpenetrates the observed. The observed comes into being by the fact of participation by an observer. The past one hundred years or so of science have given us this insight into science itself.

This next revelatory phase of science restores a psychic dimension to the universe reflecting upon itself through the unfolding of human consciousness. Quantum and relativity theories, and the Heisenberg uncertainty principle have given a “sense of a self-organizing universe,”²⁹ ever-unfolding through which, by which, and in which, the human comes to be as a “special mode of conscious reflection”³⁰ that “activate[s] one of the deepest dimensions of the universe.”³¹ *All that is* arises from inwardness.³²

Science, once again, reveals an entirely novel way of seeing and experiencing. That the observed needs an observer restores human participation in the wonders of the universe and life. Science becomes not only revelatory, not only participant, but in dialogue with what science beholds. This is a science that enfolds the human with the phenomena itself enfolding the human. This is a science that asks for a new way of doing science. This is a science not yet sure of itself, seeing anew, albeit clinging still to an old pair of spectacles, which is to say, spectating rather than participating with and being seen as an act of seeing.³³

²⁷ Bortoft, *Wholeness of Nature*.

²⁸ Ibid.

²⁹ Berry, *Sacred Universe*, 106.

³⁰ Berry, *Dream of the Earth*, 16.

³¹ Berry, *Sacred Universe*, 106.

³² Pierre Teilhard de Chardin, *The Phenomenon of Man* (New York: Harper, 1959).

³³ The realization that we are seen by the world as we are seen is one that Maurice Merleau-Ponty explored extensively in *The Visible and the Invisible*, edited by Claude Lefort, translated by Alphonso Lingis, (Evanston,

Out of Stillness: Wonder
Out of Wonder: Revelation

What do you see? What do you see when you look up at the sky at night at the blazing stars against the midnight heavens? What do you see when the dawn breaks over the eastern horizon? What are your thoughts in the fading days of summer as the birds depart on their southward journey, or in the autumn when the leaves turn brown and are blown away? What are your thoughts when you look out over the ocean in the evening? What do you see?

~ Thomas Berry, *The Sacred Universe*

The far ancient Greeks of the Near East, long before the days of Socrates, practiced techniques that would bring them to utter stillness, *hesychia*, a practice that continues in contemplative traditions today. The purpose of *hesychia*, of stillness, was to “free people’s attention from distractions, to turn it in another direction so their awareness could start operating in an entirely different way.”³⁴ The point was to “create an opening into a world unlike anything we’re used to.”³⁵ This world unlike any other is not the run-of-the-mill buzz and hum of daily existence, the rushing and worrying ourselves from place to place, task to task. This world unlike any other is a world that opens upon us by the enlivening of our presence to it in wonder, a world wherein we find ourselves suffused with awe by the sheer magnitude of mystery, the shimmering numinous presence ever in our midst. This is a world that awakens *insight*, a world so unlike any other that in it, we wake to understanding what we see and acting in accordance with that insight. We wake to wisdom.

The earlier human abided in this numinous world not as ephemera but through the indwelling totality of their being. Theirs was a world “imaged forth in the wonders of the sun and clouds by day and the stars and planets by night, a world that enfolded the human in some profound manner.”³⁶ The “world unlike any other” flashed forth through *hesychia* is a world to behold in its wholeness by the very wholeness of our being.

We witness wonder as an abiding sense in the young child. Theirs is a life still fresh with feeling, fully embodied. Children take in the world not with their eyes alone as the sense organ for seeing but with the whole of their being. When we, as adults, are captivated suddenly by the fresh sense of wonder, we have returned, in that moment, to the fullness of feeling, living in and through the entirety of our bodies no longer veiled by the limitations of mentation, of conditioned thought.

We have a deep longing for the experience of wonder. Wonder awakens in us the “excitement of life” tasted inside the quivering aliveness of our cells.³⁷ In wonder, we behold what we might not

IL: Northwestern University Press, 1968); *Phenomenology of Perception*, translated by Colin Smith, (New York: Routledge, 1958/2003).

³⁴ Peter Kingsley, *In the Dark Places of Wisdom* (Point Reyes, CA: Golden Sufi Center, 1999), 181.

³⁵ Ibid.

³⁶ Berry, *Sacred Universe*, 170.

³⁷ Ibid, 5.

otherwise see, swept away as we might otherwise be in thought, which is itself always inclined toward manifesting as memory, toward taking flight in fantasy. In beholding mystery, we encounter the numinous and bring meaning to our existence. “The most beautiful thing we can experience is the mysterious,” wrote Einstein. “It is the source of all true art and science. He to whom this emotion is a stranger, who can no longer pause to wonder and stand rapt in awe, is as good as dead: his eyes are closed.”³⁸

We might suppose that it was through persistent states of wonder that the universe came forth in celebratory effulgence through Einstein’s practice of science and the science of countless others who came before and after Einstein. In wonder, human intelligence opens to the flux of the universe as a quality of unconditioned perception. “Such perception is a flash of very penetrating insight, which is basically *poetic*,” offers David Bohm, who continues: “Indeed, the root of the word ‘poetry’ is the Greek ‘poiein’, meaning ‘to make’ or ‘to create’. Thus, in its most original aspects, science takes on a quality of poetic communication of creative perception of new order of magnitude, a new way of seeing.”³⁹ In Einstein, in Bohm, we encounter science surrendering the old spectacles of ideas and consenting to the desire of the universe to make known what the wonder of quiet stillness permits. This is science that consciously participates as “a synergistic condition in which humanity and nature work together in such a way that each becomes more fully itself through the other.”⁴⁰ Such is a science in conversation with *all that is* as an ever-unfolding creative process. A science in conversation allows for the “entanglement of matter with inward experience.”⁴¹ A science in conversation is a science in communion, a “science of heart.”⁴²

Murmurations of the Mystical

*It is a mystical venture, for its ultimate purpose is to achieve a final communion
with the ultimate reality whence all things come into being.*

~Thomas Berry

In North America, in the autumn sky, especially in the late afternoon when the sun is descending upon the Western horizon, if they happen to roost where we happen to be, hundreds, if not thousands of starlings rise into the sky in one sudden unified, seemingly weightless lift, as if carried into air by air itself. There, starlings shower all who behold them with the experience of their murmuration. They swoop and dive in complete unison, dancing across an expanse of sky in dramatic ameboid forms that arch and turn and fold in upon themselves and then open out again and spiral into arrays of glorious dynamic configurations. They texture the evening sky as a single dynamic installation of artful play. Schooling fish glide in like manner through vast expanses of

³⁸ Albert Einstein, “The World as I See It,” in *Living Philosophies* (New York: Simon and Schuster, 1931), 7.

³⁹ David Bohm, *Wholeness and Implicate Order* (New York: Routledge, 1980/2004), 145.

⁴⁰ Bortoft, 271.

⁴¹ Weber, 13.

⁴² Ibid.

water as one extended whole, their bodies flickering crystalline dispersions of light when the sun catches them just so. The experience of being mesmerized by the unitive flow of these bodies—our kin—is like none other and invokes the yearning and cellular memory of being bodied thus.

Quietly but with a quivering keenness of our flesh, we recognize in them what an emerging science is inspiring us to not only understand but to consciously participate in: the recognition that “every living being is fundamentally connected to reality through the irreducible experience of being alive.”⁴³ To be alive is to body forth the creative energies of the universe as but one ever-expressive arising of the unceasing flux of the vast plenum, that “immense ‘sea’ of energy” enfolding a universe unfolding itself into being and awareness.⁴⁴ There is no separate body divided from the whole; there is only the coming into being of the multiplicity of bodies as the unfolding expressiveness of *all that is*.⁴⁵

To be one body is to be wholly embodied. Such wholly embodied moments are those when we avail ourselves—unwittingly quite often—to the ever-flowing, “undivided wholeness” of *all that is*.⁴⁶ These moments are the suspension of conditioned thought. Mind enjoins *Mind*. Being becomes *Being*. These are moments that alight in us the mystical, the direct experience of being one with the flux of *all that is*. They are moments of communion.

A science in communion, a science *shared by* and *belonging to* more than one, which is to say, *all*, is a science whereby the phenomena is not so much observed as it is *felt*. Phenomena are felt so immensely, indeed *loved* so much that science “persist[s] in attending to them” in such a way that it “resist[s] sacrificing them to ‘beautiful thoughts’.”⁴⁷ Such a science becomes a dedication, a “sacred quest for understanding and participation in the mystery of things.”⁴⁸

This is a science of “feeling and expression” that “builds on relations and unfolds as mutual transformations.”⁴⁹ It is a science of “poetic ecology” that makes possible an understanding that matter follows “a principle of plenitude” and brings forth “subjectivity from its center.” Life, not a world of solid bodies moving at random by some extrinsic causal factor—*Life*—“is the original

⁴³ Weber, *Biology of Wonder*, 3.

⁴⁴ Bohm, *Wholeness and the Implicate Order*, 243.

⁴⁵ The idea of “multiplicity in unity” is one from Johann Wolfgang Goethe, which I have borrowed from Bortoft, *Wholeness in Nature*; the idea of unfolding expressiveness of *all that is* is informed, in part, by Bohm, *Wholeness and Implicate Order*.

⁴⁶ Bohm, *Wholeness and the Implicate Order*.

⁴⁷ Craig Holdridge. “A Fresh Take on the Goethean Approach,” *In Context*, (Fall, 2018).

<https://www.natureinstitute.org/article/craig-holdridge/a-fresh-take-on-the-goethean-approach>

⁴⁸ Berry, *Sacred Universe*, 116.

⁴⁹ Weber, *Biology of Wonder*, 3.

animating power of the cosmos.”⁵⁰ In this science, we find ourselves, if we have the heart to play, disclosing “our *sacred* story” through scientific revelation.⁵¹

Revelation is not a thing sought but an unveiling given as direct experience enlivened with wonder in communion with “the ultimate mystery whence all things come into being.”⁵² Revelation is psyche at one with Psyche, a momentary tilt toward mystical unitive experience with the ultimate mysteries of reality, of life, and of the Earth we call our home. A science of this mode of experience is a science that recognizes itself as reflective *intervening* between all of humanity and *all that is*—a science in communion. *This* science has the power to enchant us toward its evocative disclosures, its invocations of the mysteries that at once compel us and keep an obscurity. We touch the heart of meaning when the meaning of all maintains a quality of concealment. When mystery is alive, we are drawn toward the numinous. Here, “we are given to each other in that larger celebration of existence in which all things attain their highest expression.”⁵³

A science that permits mystery is a science that activates enchantment. A science that enchants is a science that portends of shepherding humanity—we, the people, as conscious, dedicated participants in communion, without which our “world will truly slip away,” and we with it.⁵⁴ A science in communion is a sacred science that carries hope, carries the goodness of the universe into every revelatory insight, carries a promise for a future to be possible.

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⁵⁰ Ibid, 14.

⁵¹ Berry, *Sacred Universe*, 110, (emphasis mine).

⁵² Ibid.

⁵³ Ibid.

⁵⁴ Weber, *Biology of Wonder*, 10.

The Center for Education, Imagination and the Natural World

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