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Research Article

Traditional and Contemporary Eco-cosmologies Within Western and Christian Traditions: Green Shoots for Integral and Integrative Sustainability Transformation

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Abstract

This article traces persistent and important counter-narratives within Western and Christian traditions, which correlate more closely with many indigenous worldviews from across the globe than with dominant narratives from across these traditions. It posits that a paradigmatic transformation is required toward an integral and integrative eco-cosmology, one that embraces cosmic interconnection and complexity. This may emerge from green shoots emanating from a diverse range of traditions, including, importantly, from within the dominant Western tradition.

Keywords

Eco-cosmology, sustainability, worldviews, counter-narratives, integrative, integral ecology

> The universe is a communion of subjects rather than a collection of objects.… We lose our souls if we lose the experience of the forest, the butterflies, the song of the birds, if we can't see the stars at night.
>
> —Brian Swimme and Thomas Berry (*The Universe Story*, 1992)

The recognition of a deep interconnection between peoples and their environment is a hallmark of many indigenous cultural and religious beliefs systems. Eco-cosmologies play a central role in many indigenous worldviews (Guzy, 2022), where both context-dependent time and place, including geographies and ecologies, intertwine to provide revelation and situate the sacred:

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> Thousands of years of occupancy on their lands taught tribal peoples the sacred landscapes for which they were responsible and gradually the structure of ceremonial reality became clear. It was not what people believed to be true that was important but what they experienced as true. Hence revelation was seen as a continuous process of adjustment to natural surroundings and not as a specific message valid for all times and places.

> The vast majority of Indian tribal religions, therefore, have a sacred center at a particular place, be it a river, a mountain, a plateau, valley, or other natural feature. This center enables the people to look out along the four dimensions and locate their lands, to relate all historical events within the confines of this particular land, and to accept responsibility for it. Regardless of what subsequently happens to the people, the sacred lands remain as permanent fixtures in their cultural or religious understanding. (Deloria, 1973, p. 66)

By contrast, dominant modern Western and European cosmologies entail reduction and separation ["the old paradigm of disjunction/reduction/simplification" (Morin, 2008, p. 29)], whereby nature and the environment are considered separate, to be harnessed, controlled, and utilized for the benefit of humankind. Of course, Christianity has had a long-standing alignment with Western thought from its very inception. Despite starting off as an underground and subversive ideology on the fringes of Judaism and the Roman Empire, it quickly spread to Rome and the center of European civilization to became enmeshed with both Eastern and Western European traditions. In doing so, it generally quite skillfully and openly adapted traditional, pagan, and indigenous traditions, cultures, and outlooks across the European landscape, even beyond the reach of Rome, through, for example, its success in Ireland, Scotland, and other regions without the empire. The Irish church therefore took on traditions and rituals borrowed from earlier pagan and indigenous worldviews that were quite distinct from Roman orthodoxy, following perhaps "a series of complex layers of Christianisation in the conversion-era landscape," whereby, in archeological terms, "most Christians may have viewed these ancient monuments, as well as pagan ritual complexes in a reverential light" (Harney, 2017).

Crossover examples include holy wells, widely associated with Christian saints and healing properties, but whose druidic genesis often involved the veneration of pagan deities at seasonal changing festival dates, representing both fonts of curative water and openings to the otherworld. In addition, sacred trees or Gaelic *bilí* transcended both pagan and Christian traditions, around which latter missionary settlements were founded. The cutting down of such trees was utterly forbidden in pre-Christian times and also sometimes latterly among local Christian communities (Monaghan, 2014, p. 45). Rag trees, of native hawthorn, holly, or ash, are often associated with holy wells and have been employed for their curative properties for illness or anxieties by tying rags or ribbons, admixing pagan tradition with Christian ritual (Ray, 2015). Indeed, sacred rag trees span global and historical cultures and have been used for a wide variety of reasons: rags are variously tied to mark sacred trees, as offerings

to tree deities, as votive offerings, as thanking for cures, for ensuring a good harvest, for commemorating death, or for pacifying ancestors' spirits (Dafni, 2002). While many contemporary Pagans would envisage the distant (pre-Christian) past as "a golden age, envisioned as a time when followers of nature-based religions lived in harmony with the land they lived on and in sync with seasonal cycles" (Butler, 2015), across the Christian world too, through the fall of Rome and subsequent ages up to the birth of modernity, various rituals, practices, and understandings were prevalent, which indicated an appreciation of deep human connection with the world around.

These practices and venerations were often dismissed as mere acts of idolatry or superstition by post-medieval moderns, in particular by more literalist reductionist traditions of Protestantism, though less so by other Christian traditions more open and embracing of ritual, such as Catholic or Orthodox (Robbins, 2007). It has been noted, for example, that Mediterranean neopagan adherents display a level of comfort around incorporating broader cultural Catholic identity as a natural part of their neopagan identity, in a way that is deemed less compatible for those from many Protestant traditions (Rountree, 2011).

Alternative Perspectives in Western Society: From Classical to Medieval Times

The natural human tendency to impose structure and order on the world has been manifest from the dawn of human civilization and through classical times. Plato's philosophy of rationalism, dualism, and absolute truth has had a profound impact on Western philosophy, providing a structural basis. Yet, even within this dominant tradition, there also has always been room for alternative conceptions. Heraclitus, who belonged to the earlier Ionian School, described a world of process, continuous change, and agonistic complementary opposites. As he put it: "Men do not know how that which is drawn in different directions harmonizes with itself. The harmonious structure of the world depends upon opposite tension like that of the bow and the lyre" (Heraclitus, 1901, p.150).

Similarly, in the medieval world, Saint Francis of Assisi projected a counter-narrative to the prevailing imperative. The Franciscan worldview was grounded in a deep respect for, and interconnection with, the natural world and a humility for our place in the cosmos. It also emphasized Christian support and care for the poor, vulnerable, and underprivileged. Francis's Canticle of the Creatures (Saint Francis of Assisi, 1224) emphasizes eco-cosmological interconnection:

> Praised be you, my Lord, with all your creatures,
> especially Brother Sun, who is the day and through whom you give us light.
> … Praised be you, my Lord, through Sister Moon and the stars,
> in heaven you formed them clear and precious and beautiful.
> … Praised be you, my Lord, through our Sister, Mother Earth,
> who sustains and governs us.

Lynn White (1967) proposed Francis as a patron saint for ecologists, a suggestion formally accepted by Pope John Paul II a decade later when in 1979 he named Francis as patron Saint of Ecology.

Franciscan thinking, and the associated Franciscan theology, have clearly and consistently been articulated within the Christian tradition (right up to contemporary process and eco-theologians, who envisage an unfolding, emergent, and deeply interconnected universe). These strands, however, act as a counter-narrative to prevailing Christian and European orthodoxies, who would generally promote reductionist and causal conceptions indeed within both religion and science (each of which would in turn be considered strictly separate domains).

Our Sister, Mother Earth: A Sacred Space?

Such countercurrents within Western, European, and Christian traditions thus remain "distinct from those of the dominant societies in which they live," in many respects mirroring the plight of indigenous peoples. In fact, the above phraseology is used to define and characterize indigenous peoples, as articulated by the United Nations (2021). Moreover, Western and Christian undercurrent worldviews and theologies based on process thought and deep interconnection cohere with many indigenous cultures that embrace human connection with the world and universe in a way that manifests as a recognition of the sacred within the secular. This makes redundant modern and contemporary conceptions of "economic externality," since the sacred is something that is *beyond* monetary value.

> If you become conscious of connections to everything, not just the immediate world before you, you will experience a much broader and more powerful sense of Being. Some Native Americans talk of being part of the web of life. They connect everything to everything and so develop a respect for everything as sacred.… Spirituality leads to practices in daily living that reflect a sense of connectedness to the world.… We have to recover the sense of sacredness of the world, even of the cosmos, that envelops us. (Ehrenfeld & Hoffman, 2013, pp. 106–107)

There is nothing rational, certainly to our modern sensibilities and the dominant economic model about preserving oases of natural habitat and spaces throughout the ages simply due to their bestowal of sacredness. But this is exactly what has happened in Bcharre Grove, one of the very few extant cedar groves in Lebanon today. These "Cedars of God" have been preserved, while all others have been cut down, exploited for economic gain across the Lebanon over the ages. Their protection has been singularly down to their sacred status, immune to the concept of economic externality. A similar situation pertains in Mount Athos in Greece, which, as a sacred spot, has retained its abundant trees throughout the ages, unlike the vast majority of other similar denuded mountain and hill sites across Greece.

In contemporary contexts, the concept of sacred can therefore become not just a powerful but also perhaps an indispensable tool in contexts of seeking sustainability and promoting a flourishing biosphere and society. As Charles Eisenstein (2011) puts it in *Sacred Economics*:

> And what is the sacred? It has two aspects: uniqueness and relatedness. A sacred object or being is one that is special, unique, one of a kind. It is therefore infinitely precious; it is irreplaceable. It has no equivalent, and thus no finite "value," for value can only be determined by comparison. Money, like all kinds of measure, is a standard of comparison.

Is not the earth both unique and related to all its inhabitants?

Western Modernity's Triumphs and Tribulations

The dominant Western paradigm, however, seeks to impose itself on all before it, to the detriment of all else, as is the disposition of the left hemisphere of the brain, which underpins and promotes it (Byrne, 2021; Ehrenfeld, 2019; McGilchrist, 2012). This paradigm, which underpins the modern worldview, was substantially developed with the onset of (the second turn of) modernity (see below; Toulmin, 1992) through the neo-Cartesian philosophy of antagonistic dualism and rationality. While drawing from earlier conceptions, Descartes's thesis represented a radical turn that was both enthusiastically embraced and resolutely successful, over the past four centuries. Its popular appeal was fueled by a deep desire for certainty across a seventeenth-century Europe in turmoil. Foremost was the ongoing most destructive war in Europe until the twentieth century in the form of the sectarian Thirty Years' War, as well as a period of relative climate change as Europe suffered a mini ice age in what has been called the "General Crisis" (Toulmin, 1992).

René Descartes (1596–1650) sought certainty through rationality, based on an antagonistic dualism between the objective physical mechanical body and the entirely separate subjective mind/soul. Amid the turmoil of the early seventeenth century, Descartes's reductionist thesis was a resounding success. It continues to be, at least on its own terms, driving on scientific and economic progress. It did little to halt the bases for religious sectarianism and division, however; in fact, it encouraged division, since the philosophy of reduction and separation pervaded both science and religion, promoting silo-ization, not just between (respective reductionist conceptions of) science and religion but also within disciplinarian fields, and of course among absolutist and exclusivist "either–or" conceptions of religion, serving to fuel sectarian distrust, and worse. It allowed for literalist and in turn fundamentalist interpretations of sacred texts, contra understandings of these in their originally grounded metaphorical contexts.

As alluded to above, the emergence of Cartesian philosophy, which underpinned scientific modernity, followed what Toulmin (1992) calls the "first phase of Modernity" (pre-1610) during the prosperous sixteenth century when (a religiously imbued) humanism flourished, tolerant of diversity, plurality, and ambiguity, and when "the lack of certainty [was] no error, let alone a sin" (Toulmin, 1992, p. 30). In concert with this thinking and times, the influential French writer and philosopher Michel de Montaigne (1533–1592) suggested that the only thing certain is that nothing is certain. With the onset of the second phase of modernity, however, came a quest for (Cartesian) certainty: "general axioms were in, concrete

diversity was out" (Toulmin, 1992, p. 34). In 1637, Descartes published *Discourse on the Method*, which provided the rational basis for what became known as the scientific method. He introduced the Cartesian coordinate system from which scientific modernity could map out, and keep track of, its bright new future, while he attempted to introduce a set of fundamental principles that can be accepted without any doubt, in many respects presciently (if rather disconcertingly) predicting that

> It is possible to reach a kind of knowledge which will be of the utmost use to men … and thereby make ourselves the lords and possessors of nature. (Descartes, 1637)

Descartes's philosophy was highly influential in framing the basis of the dominant reductionist paradigm of the past 400 years, or as Eisenstein (2007) calls it "the age of separation." Galileo, Newton, and Laplace among many other scientific giants further developed this worldview, one that was essentially mechanistic and deterministic, amounting to physical reductionism or physicalism (Ulanowicz, 2013). Such context-free and universally applicable science was to be the means of uncovering truth, and by this means uncertainty could be suppressed. The Christian churches with their European and Western contexts and genesis imbued this paradigm. The resultant thinking sometimes displayed a fundamentalism [cohering with left brain thinking (McGilchrist, 2012) that accommodates only "either–or" standpoints]. From this perspective, to the religious adherent, only "my God" and belief system is right, and therefore, there is no room for "the other," any other; other belief systems are thus deemed not only in grave error but both backward and potentially dangerous. Hence, they must be supplanted and extinguished. This meant that alongside European colonization and imperialism came Western Christian doctrines from which emerged conceptions such as that of "manifest destiny" and a missionary zeal that would seek to annihilate indigenous customs, traditional belief systems, values, and worldviews. Such behaviors amounted to "crimes committed against the native peoples during the so-called conquest of America … in the name of God," as has been acknowledged by Pope Francis, speaking in Bolivia (Francis, 2015a).

The modern paradigm has also birthed a neoliberal economic system of capitalism that promotes an individualistic consumerism via an ideology of (infinite) growth. This is the driving force underpinning the contemporary crisis of unsustainability. Manifestations of this include climate change, unprecedented rates of biodiversity and cultural loss/extinction, increased globalized uniformity over cultural/anthropogenic diversity, increased individualism/narcissism over the collective/community, increased anxiety at individual and societal scales, and an ever-expanding throwaway materialistic consumerism. The modernist paradigm, which has promised and delivered great power, control, and goods to privileged purveyors, has also, however, been too smart for its own good. Driven by (left-brained) hubris, uber-smart progress trumps accumulated wisdom. The result is as ubiquitous as it is global.

Symptoms of this throwaway consumption culture abound. Across Europe (and elsewhere), there is an ongoing increase in waste production and packaging

waste, including plastics, despite enhanced awareness. Music festivals in Ireland such as the Electric Picnic, while happy to promote environmental credentials, have nevertheless been described after a throwaway culture means that revelers invest in cheap tents and festival paraphernalia, which are then laid waste across sprawling campsites (employed as single-use disposable items) after the event (Calnan, 2018; Power, 2019).

Meanwhile in India, where the government aspires to create 100 shiny "Smart Cities," the city of Bengaluru, an IT hub, is filled with toxic smoke on a regular basis as the local Bellandur lake catches fire from toxic industrial emissions and the garbage that permeates the lake (Abraham, 2018, 2021). While these are just isolated examples, they serve to demonstrate how tenuous our connection to the natural world has become, certainly in our minds, if not in reality.

Amid a tsunami of consumerist growth, we are now at a critical point and a major dilemma arises. It is clear that spirituality as characterized by many indigenous traditions promotes such an outward-looking (transcendent) sense of interconnection, entwined with an immanent sense of the sacred in the created world around. Perhaps this is foundational for further human progress, if not survival. If the concept of the *sacred* is the only mechanism that can help preserve and honor those deep interconnections with the world around us, perhaps we need to collectively and purposefully decide to embrace such an ethic. The Franciscan values of love and reverence to "our Sister, Mother Earth, who sustains and governs us" cohere with a sense of envisaging her (and her inhabitants) as *sacred*—that is, unique and related to us, such that her desecration is treated as taboo, beyond the pale, and thus cannot be simply internalized and accounted for as an economic externality. Recent accounts point to an increasing trend in damage to heritage sites across Ireland (which number 145,000 recorded archaeological sites and monuments in the Republic alone) (Lucey, 2021). While this may perhaps reflect a rejection of the concept of the sacred, at least among some within society, the fact that such sites have remained across the centuries may be indicative of the inherent value of the concept.

Such conceptions, however, are derided by the dominant societal paradigm that has driven a crisis of unsustainability amid globalized standardization, loss of cultural/anthropogenic diversity (including indigenous wisdom/s), techno-optimistic rationality, and a growth-based neo-liberal economic system feeding individualistic consumerism and economic inequality.

From a religious perspective, this dominant societal paradigm has consequently pervaded the Judeo-Christian worldview. This has several manifestations, such as an embrace of Cartesian separation between the material and the numinous. This has supported a strict separation of religion and science, facilitating fantastical religious constructs and unproductive talking over between reductionist theists and reductionist atheists. Such a theism also promotes an anthropocentric emphasis on (individualistic) human salvation and ideas of dominion/control over nature [what Pope Francis has critiqued as "an inadequate presentation of Christian anthropology … often, what was handed on was a Promethean vision of mastery over the world" (Francis, 2015b, p. 116)]. The paradigm of separation has facilitated a pointing toward heaven as "up there," and thus away from the physical

dimensions of the earth or indeed Cartesian (cosmic) space (via metaphysical antagonistic dualism). The result has been a religion guilty of a proselytizing colonialism in step with European political and imperial ambitions.

Seeking Hope Amid Contemporary Crises

So, is there any hope for John Mohawk's "re-indigenizing the peoples of the planet to the planet" (Mowhawk, 2008, p. 259), given now ubiquitous Western reductionist conceptions of science and religion? If so, perhaps it lies in the development of an eco-cosmology that would embrace both the indigenous worldviews that recognize deep interconnection and sacredness within the natural world, coupled with a reenergizing of correlating counter-narratives that have permeated Western and Christian traditions. Communication of scientific fact alone and rational argument have been shown to be hopelessly inadequate in the face of our sustainability, climate, and biodiversity crisis (Ballantyne, 2016); engagement through stories, metaphors, narratives, and worldviews also needs to be accomplished (Morris et al., 2019; Sage et al., 2022). Indeed, many argue that the crisis goes beyond the material or scientific, but the existential crises that we and many other species face are in fact spiritual at heart (Dhiman & Marques, 2016; Lestar & Böhm, 2020; Ulluwishewa, 2014). Moreover, regardless of one's secular or religious beliefs, complexity biologist Stuart Kauffman posits that while there are billions of believers across the world, rather than trying to dissuade them from their beliefs, it makes far more pragmatic sense to use the associated structures, cultures, and inherited wisdoms, in the context of sustainability narratives, to seek to engage productively with these religious sensibilities and the broader secular world, as we seek to work through the crisis to save ourselves from ourselves. He argues that the secular and religious need to get over and beyond respective differences and silos and eke out this common global ethic if there is to be hope. This can collectively elicit a positive change, in particular from among those who would be open to the idea of bestowing sacred respect for the created world around us ["the sacred in the creativity in nature" (Kauffman, 2008, p. 276)], as a manifestation of ongoing awesome creativity. Bringing concepts of creativity and creator together, he proposes reinventing the sacred in a way that coheres with complex reality:

> Creativity in natural complex systems is a property, so stunning, so overwhelming, so worthy of awe, gratitude, and respect, that it is God enough for many of us. (Kauffman, 2008, p. 276)

Given that the dominant globalized worldview has been driven by Western philosophy, it may be that if we are to be saved from ourselves, then this must be challenged in particular from within this tradition, both across scientific and religious domains. Historical exemplars of strong counter-narratives within the dominant societies in which they live in the context of Western and Christian traditions may thus play a key exemplary role for necessary contemporary transformation. Looking back to the birth of the contemporary environmental

movement in the West, Lynn White (1967), while surveying the historical roots of our ecological crisis, decries Christianity "especially in its western form … [as] the most anthropocentric religion the world has seen." He points out:

> The greatest spiritual revolutionary in western history, Saint Francis, proposed what he thought was an alternative Christian view of nature and man's relation to it: he tried to substitute the idea of the equality of all creatures, including man, for the idea of man's limitless rule of creation. [But] He failed.

But, failure or not, if Francis was an early counter-cultural pioneer within Western tradition in the thirteenth century, he certainly wasn't the last. Within Christian and Catholic traditions, Franciscan thinking has sought to emphasize a positive theology of interconnection between all of creation, manifest as love, while also celebrating the individuality and hence diversity, in particular the unity in diversity, across creation. Following St. Francis and his contemporary, St. Clare of Assisi, were influential medieval theologians such as Bonaventure and Duns Scotus. Such thinking is comfortable with holistic, complex, and emergent conceptions of an ever-changing universe, rather than the fixed and immutable. This perspective also underpins contemporary theologies that cohere with a science of complexity, including process theology, as well as liberation, systematic, and constructive theologies. As Pope Francis (2015a) later puts it:

> I like the image of a "process," processes, where the drive to sow, to water seeds which others will see sprout, replaces the ambition to occupy every available position of power and to see immediate results. The option is to bring about processes and not to occupy positions. Each of us is just one part of a complex and differentiated whole, interacting in time: peoples who struggle to find meaning, a destiny, and to live with dignity, to "live well", and in that sense, worthily.

Awakening to Deep Interconnection

Rachel Carson's (1962) book *Silent Spring* provoked an awakening to our deep interconnections with the world around. Cronon's (2008, ix) observation that it is "hard to overstate that book's impact" demonstrates the import of this seminal text and its contribution to the contemporary environmental movement. Carson wrote that "the history of life on earth has been a history or interactions between living things and their surroundings." While this echoes the worldviews of the indigenous peoples of North America described earlier, Carson was a product of early twentieth-century American Calvinism. Lasher (2012) describes a woman born in 1907 with strong Calvinist upbringing and background, imbued with Puritan-Protestant values, which viewed nature as important, especially the cultural significance of "wilderness." However, as American wilderness was overtaken by westward expansion and "progress," the dominant culture's self-understanding of the United States as a "Nature's nation," and cultural associations with the sacred, virtue, beauty, and innocence were challenged. Carson was a product of "The Nature Study Movement," which sought to impart a progressive focus on education. This incorporated a modern scientific worldview, while also recognizing

limits of scientific endeavor, at the same time seeking to nurture children's spiritual and ethical development. This movement had the support of intellectuals such as John Dewey (for whom nature study was holistic science, conveying the full moral import of relational wholeness in personal development).

More recently, and in the wake of the climate crisis, the first Latin American pontiff and spiritual leader of 1 billion Roman Catholics has drawn upon a similar recognition of deep interconnection and indigenous values. Taking the name Francis, after the medieval saint, his 2015 scientifically informed and secularly oriented encyclical *Laudato Si': On the Care of Our Common Home* (Francis, 2015b) attracted an unusual level of popular acclaim for a religious text. Commendation ranged from Professor of History of Science at Harvard University, Naomi Oreskes, to the *Financial Times*:

> Sometimes a book catalyzes thought into action. Uncle Tom's Cabin did this, and so did Silent Spring. Like these works, Pope Francis's Encyclical is a call to action that insists we embrace the moral dimensions of problems that have heretofore been viewed primarily as scientific, technological, and economic. (Oreskes, 2015, p. vii)

> Pope Francis's encyclical, Laudato Si', will ultimately be recognised as one of the most significant events in the modern environmental movement. (Linden, 2015)

By this publication, Pope Francis (2015b) explicitly articulates a vision embracing deep interconnectedness, and with it a rejection of the dominant paradigm of techno-optimistic consumerism in favor of an integral and integrating humanism:

> It cannot be emphasized enough how everything is interconnected. Time and space are not independent of one another, and not even atoms or subatomic particles can be considered in isolation.… It also entails a loving awareness that we are not disconnected from the rest of creatures, but joined in a splendid universal communion.… We urgently need a humanism capable of bringing together the different fields of knowledge, including economics, in the service of a more integral and integrating vision.… What is needed is a politics which is far-sighted and capable of a new, integral and interdisciplinary approach to handling the different aspects of the crisis.

Previously, in a speech to Italian cooperatives, and citing St. Basil of Caesarea's proclamation that "money is the devil's dung," Francis, as is his wont, decried the contemporary "throw-away culture" cultivated by the powers that uphold the economic and financial policies of the globalized world, at the center of which is the god of money (Francis, 2015c).

His thesis embraces Franciscan counter-cultural thought, conceding that Descartes's claim that we can be controlling "lords and possessors of nature," a foundational tenet of the paradigm of modernity, and one that has been rigorously embraced by Christians, has represented a grave misinterpretation of scripture, with disastrous consequences (Francis, 2015b):

> Saint Francis of Assisi reminds us that our common home is like a sister with whom we share our life … [who] now cries out to us because of the harm we have inflicted on her.… We have come to see ourselves as her lords and masters, entitled to plunder her at will.
>
> [While] we Christians have at times incorrectly interpreted the Scriptures, nowadays we must forcefully reject the notion that our being created in God's image and given dominion over the earth justifies absolute domination over other creatures.
>
> The poverty and austerity of Saint Francis were no mere veneer of asceticism, but something much more radical: a refusal to turn reality into an object simply to be used and controlled.

Laudato Si', which as a pontifical encyclical reflects formal Catholic Church orthodoxy and social teachings, prioritizes indigenous over consumerist values (Francis, 2015b):

> We need to take up an ancient lesson, found in different religious traditions and also in the Bible. It is the conviction that "less is more."
>
> A consumerist vision of human beings, encouraged by the mechanisms of today's globalized economy, has a levelling effect on cultures, diminishing the immense variety which is the heritage of all humanity.
>
> It is essential to show special care for indigenous communities and their cultural traditions.… For them land is not a commodity but … a sacred space with which they need to interact if they are to maintain their identify and values.

A key influence of Francis, by his own admission, has been the twentieth-century German-Italian Catholic priest, academic, philosopher, and theologian Romano Guardini (1885–1968), who held an expressly integrative worldview. According to Francis (2018, pp. 11–12):

> The master of oppositions, of bipolar tensions, as we might call them, is Guardini, who teaches us this path of unity in diversity. What's happening today with fundamentalists? Fundamentalists lock themselves up in their own identity and don't want to hear anything else.… We must not seek synthesis, because synthesis can destroy everything; we must tend towards the polyhedron, towards the unity that preserves all diversities, all identities. The master in this field—because I don't want to commit and act of plagiarism—is Romano Gaurdini

Green Shoots Toward an Integral Cosmology

> We are part of a living planet, and we are only beginning to hear once again the voices of the many beings—human and more than human. This is postmodern listening, drawing on science and humanities, as well as traditional environmental knowledge of indigenous peoples from around the globe. (Tucker, 2017, p. xii)

Alternative and emerging integral and integrative worldviews are founded on scientific conceptions of complexity, process thought, and process ecology (Byrne, 2017a, 2017b; Ulanowicz, 2016). An integrative worldview has also been proposed as part of Hedlund and De Witt's Integrative Worldview Framework (IWF) model, which incorporates four worldviews: traditional, modern, postmodern, and integrative (Byrne, 2017b; de Witt & Hedlund, 2017), each of which may offer value. Concepts around integral ecology have been developed from the later part of the twentieth century (often drawing upon earlier Western philosophical traditions such as early nineteenth-century European scientific Romanticism and *Naturphilosophie*), cohering with process conceptions of evolutionary development, while incorporating interconnected material and social, but also typically cultural, moral, ethical, and spiritual, domains (Mickey et al., 2017).

Integrative and complexity informed scientific approaches often build on twentieth- and twenty-first-century science around quantum physics, Gödelian uncertainty, and biological and social emergence. While outputs remain (frustratingly) marginal to a dominant reductionist scientific worldview, which still pertains (in part helped by the silo-ized separation of the disciplines that the latter promotes and the corresponding privileging of work that seeks to learn "more and more about less and less"), nevertheless there is a strong current of work running across and between disciplines. This includes works such as Ilya Prigogine's (1997) *The End of Certainty*, Robert Ulanowicz's (2009) *A Third Window*, Charles Lineweaver et al.'s (2013) *Complexity and the Arrow of Time*, Stuart Kauffman's (2008) *Reinventing the Sacred*, Melanie Mitchell's (2011) *Complexity the Guided Tour*, Edgar Morin's *Homeland Earth* and *On Complexity* (Morin, 1999, 2008), Basarab Nicolescu's (2008) *Transdisciplinarity Theory and Practice*, Paul Cilliers's (1998) *Complexity and Postmodernism*, John Ehrenfeld's *Sustainability by Design*, and *The Right Way to Flourish* (Ehrenfeld, 2008, 2019), Charles Eisenstein's (2011) *Sacred Economics*, Tom Wessels's (2006) *The Myth of Progress: Toward a Sustainable Future*, and Iain McGilchrist's (2012) *The Master and His Emissary: The Divided Brain and the Making of the Western World*, among many others.

These counter-narratives have been mirrored among Christian writers and theologians (as indeed, among those within and across other religions), with similar marginalization. Such practitioners would champion the recognition of deep interconnections between ourselves and the world around as well as between religion and science, whereby as Berry would put it "the unity of being, 'communion', is as much a fundamental part of the cosmos as differentiation and subjectivity" (Ellard, 2012). These include contributions from the likes of Pierre Teilhard de Chardin, Jesuit Catholic priest and paleontologist (1881–1955); Thomas Berry, Passionist priest (1914–2009); Denis Edwards, priest and theologian (1943–2019); Józef Życiński, Catholic Archbishop and theologian (1948–2011), John B. Cobb, Methodist theologian and philosopher (b. 1925); Catherine Keller, constructive theologian (b. 1953); Ilia Delio, Franciscan sister and theologian (b. 1955); John Haught, Catholic theologian (b. 1942); and Richard Rohr, Franciscan friar and theologian (b. 1943). Drawing on this

eco-cosmological worldview in theological terms, Villanova academic Delio (2011, p. 57) thus characterizes sin as "the refusal to participate in the web of life. It describes the personal history of one who was created for communion and refuses it."

So what impact can these proponents of counter-narratives to the dominant Western modern paradigm have? As per the integrative worldview paradigm, they can play a hugely significant role from within Western scientific and Christian thinking, as allies and fellow travelers alongside otherworld traditions and faiths; local, experiential, and indigenous knowledge bases; and secular proponents of post-reductionist science. These seemingly disparate groupings, representing apparent disconnected green shoots, can through an open, transdisciplinary, and collective ethos help join the dots to precipitate an emerging integrative and integral (complexity informed) "global societal paradigm" (Byrne, 2017b, p. 65). Broad sketchings of an associated societal ethic may be evident in Kauffman's (2007) call for a "global ethic to constitute the transnational mythic value structure that can sustain the emerging global civilization" or in Morin's (1999, p. 146) envisaging of the "common adventure of the Planetary era … [as] 'co-pilots of the Earth' … work[ing] toward a partnership with the terrestrial biosphere," or indeed in Berry's (2009, p. 122) "ethical imperative of our times … [as] 'the shared dream experience' … as a groping, or as a feeling, or as an imaginative process.' While the shape of such an ethic can be neither pre-stated nor prescribed, but can only come as part of an iterative process of engagement, its corresponding paradigm would normatively and explicitly seek sustainability-as-flourishing (Ehrenfeld, 2008, 2019), embracing the qualitative as well as the quantitative, and likely "a psychic-spiritual as well as a material-physical reality" (Berry, 2009, p. 118). But paradigmatic change is itself both complex and tortuous. The realization of such a paradigm therefore requires all hands on deck, not least those of Western and Christian traditions, who would with like-minded others play a key role in developing a new positive and compelling story around emergent creation and connection over control and consumption.

Local Indigenous Strands

It is perhaps opportune in this context to conclude by drawing on the example of a local Cork and Irish example. Having been described as being "rather in the style of Francis of Assisi" (Kilroy, 2019), Nano Nagle (1718–1784) was also "an indominatable woman who transcended narrowly prescribed boundaries of her time" (O'Brien & Castle, 2018). Born in seventeenth-century North Cork, Nagle came from rare stock at the time, that of a privileged Catholic gentry background, though of an old Anglo-Irish family and with good establishment connections (she was a first cousin of Edmund Burke). While education was illegal for the Catholic population at the time in Ireland, she was able to secure an education in Paris and enjoyed a social high life there (Clear, 2009). This was at a time when the local Catholic, generally indigenous and largely Gaelic-speaking population, were denied an education following the Penal Laws. Nagle returned to the city of

Cork in 1750 (Raftery et al., 2018), with the subversive aim of secretly educating impoverished children, young girls in particular, when it was neither lawful nor safe to do so. Her aim was to support (the many) underprivileged indigenous children, thus empowering them by seeking "to offer a way out of the poverty trap" (de Bhál, 2000). She insisted on operating from mud hut constructions "out among the people, educating the poor, rather than behind convent walls teaching the well-to-do" (O'Brien & Castle, 2018). Nagle doggedly stuck to this aim, even as the Penal Laws where being relaxed in late eighteenth-century Ireland and Catholic fee–paying schools were being established for a new emerging Catholic middle class. She thus founded the Presentation sisters as a means of seeking to holistically support educational and spiritual education of girls from all backgrounds (though in particular the disadvantaged), a movement that spread across every continent over the following three centuries.

Today, while the reach and influence of these women have significantly waned, the mission of their international congregation is clear. Following Nano Nagle's vision, articulated in the context of contemporary times, they proclaim a

> conscious[ness] of the interconnectedness of all that exists and of God's revelation in all of life. We add our voices to those who work for healthier ecosystems and a healthier planet, knowing that where Earth is most exploited, those made poor suffer most. We work for the transformation of unjust systems, the integrity of creation and the flourishing of humanity and Earth. (Presentation Sisters Union, 2021)

Nagle's birthplace in north Cork's Blackwater valley is a center of heritage, spirituality, and ecology. It incorporates a certified organic farm and declares its mission as follows:

> To promote a vision of eco spirituality—the natural interconnectedness of everything, which leads to personal transformation and a sense of responsibility to our earth and to all living beings. (Nano Nagle Birthplace, 2024)

Meanwhile, Nano Nagle Place (2024) in Douglas Street, Cork, is a multi-faceted hub situated around where her original (Cove Lane) city schools were founded. Both centers offer an ongoing series of talks, workshops, presentations, courses, retreats, and competitions around a range of eco-cosmological themes, including on topics such as "Painting the Stars: The Universe Story," "Evolutionary Awareness: An Emerging Worldview," and "The Cosmic Walk."

Conclusion

> Our global system is thus condemned to choose between death and transformation. This transformation can only take place as the outcome of a variety of processes of reform and change, each of them a tributary to a single mighty river of metamorphosis. In this way, our era of change is a prelude to a greater, epochal change. (Hessel & Morin, 2012, p. 5)

The way out of our existential climate and biodiversity crisis, and indeed the crisis for humanity and human civilization, seems unclear. However, it will likely require a structural and paradigmatic, rather than mere programmatic, change. The supplantation of the old paradigm with an emerging integrative and integral one, which embraces deep interconnection and an eco-cosmological worldview, would seem, to this author at least, to represent humanity's best bet, and perhaps our only option. For this to be realized, emergent green shoots to support the development of such a worldview are required, everywhere. This includes (and in particular from within) the powerful (Western and Christian) traditions of the Global North from which the dominant paradigm has emerged to conquer the world, both literally and culturally. For the journey ahead, if indeed there is unity in diversity, then North and South, East and West, we must all contribute in this common endeavor. For in this tiny cosmic outpost, we are all together.

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