

The Quest for Integral Ecology

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Abstract: Integral ecology is an emerging paradigm in ecological theory and practice, with multiple and varied integral approaches to ecology having been proposed in recent decades. A common aim of integral ecologies is to cross boundaries between disciplines (humanities, social sciences, and biophysical sciences) in efforts to develop comprehensive understandings of and responses to the intertwining of nature, culture, and consciousness in ecological issues. This article presents an exploration of the different approaches that have been taken in articulating an integral ecology. Along with a historical overview of the notion of integral ecology, we present an exposition of some of the philosophical and religious visions that are shared by the diversity of integral ecologies.

Keywords: ecology, integral ecology, religion and ecology, speculative philosophy, Thomas Berry.

“The quest today is increasingly for an *integral ecology*” (Boff and Elizondo, 1995, p. ix). That quest is our topic in what follows. Although Boff and Elizondo were among the first to use the phrase “integral ecology” in 1995, the quest for an integral ecology is not entirely new. It is an increasingly pressing quest today, but the quest itself has a very long and complex itinerary, with routes extending to the earliest attempts of human beings to understand and respond to the relations and patterns between the myriad beings that they encounter alongside them in the world.

The quest for an integral ecology is at work, at least implicitly, in the control of fire, the invention of cooking, cave painting, the cultivation of plants, and the domestication of animals. All of these activities required humans to develop a sense of relationships (e.g., between wood,

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moisture, friction, combustion, food, and hunger), and a failure to integrate multiple dimensions of those relationships (e.g., interiority and exteriority) could prove fatal. For instance, understanding how to make fire does not do much good if one cannot also discern how the capacities of fire relate to experiences of safety and wellbeing. That is the quest of integral ecology in a nutshell. It is a quest for knowledge, theoretical and practical, of the depth and complexity of relationships between beings, including their subjective and objective facets.

In this essay, we explore multiple approaches people have taken in the quest for an integral ecology, providing 1) a historical overview of the idea of integral ecology, and 2) an exposition of some of the common threads tying together the diversity of integral ecologies, including a) an engagement with speculative philosophical visions of the cosmos and the place of humans therein and b) inquiry into the ecological implications of religion and spirituality.

Integral Ecology in the Making

Although a quest for integral ecology can be discerned in early humans, it is not entirely appropriate to call them ecologists, since they had not formally developed theories or practices of ecology or of any field of scientific inquiry per se. They are more accurately called “proto-ecologists,” which is a term that is used for describing “those who had ecological insights before a formal science of ecology was formulated” (McIntosh, 1985, p. 15). Although proto-ecologists are not modern scientists, they nonetheless practice what is typically defined as the task of ecology—inquiry into the relationships between organisms and environments.

Some forms of ecological inquiry are more integral than others. In his account of the history of ecology from antiquity through the twentieth century, Donald Worster (1994) discerns two distinct approaches to understanding and responding to the interactions between organisms and environments: first, the “*arcadian*” approach, which is oriented toward “*peaceful coexistence*” with organisms and environments, and second, an “*anti-arcadian tradition*,” which fosters an “*imperial*” view of nature focused on objectifying Earth’s resources and exploiting them for human ends (pp. 2, 29). Integral approaches to ecology resonate more with the former.

An example of the tension between arcadian and imperial ecologies can be found in the view of plants expressed by Aristotle (384-322 BCE). For Aristotle (2001), each living being has a soul, with “soul” (psyche) defined as the form that causes life in the material body. Different kinds of living bodies are distinguished by the presence of one or more of the following potencies of the soul: intellect, perception, movement with regard to place, and nutrition. A plant has a share in the nutritive part of the soul, which manages the work of growth and nutrition. Animals also share in this nutritive potency of the soul. However, animals also possess the perceptive potency of the soul and the capacity for moving themselves with respect to place. Furthermore, some animals have the capacity to reason and think things through. The way in which an animal’s senses are directed and attuned to the sensible world is a kind of ‘*ratio*’ or rationality. However, this does not mean that animal thinking is identical with the kind of thinking proper to humans, for a human being is also capable of imagination and intellect, which make it possible to discern what is true from what is false.

On one hand, Aristotle represents an arcadian ecology insofar as he affirms the soul or interior agency of plants, in contrast to modern scientific perspectives for which plants are studied only with respect to their exteriority as calculable and measurable objects. On the other hand, Aristotle's hierarchy of the different capacities of the soul privileges human intellect over the cognition, perception, and locomotion of animals, and those animal capacities are privileged over the nutritive capacities of plants. Why is human intellect privileged? More than the other capacities of soul, intellect allows humans to become virtuous and happy. As Matthew Hall (2011) puts it in his philosophical botany, "the higher faculties of soul are higher purely because they are thought to belong solely to human beings. This value-ordering is fundamentally anthropocentric, with humanity becoming the yardstick for value"(p. 25). That value-ordering denies any intrinsic value in plants, leaving them with only instrumental value as objects to be used and consumed according to human ends.

Thus, there is a tension between Aristotle's arcadian attribution of soul to plants and his more imperial view, for which humans are the primary center of value and plants are seen as having only instrumental value as objects to be used by animals and humans (for food, shelter, etc.). The arcadian side of Aristotle's philosophy of nature is carried forward by his pupil, Theophrastus, who does away with Aristotle's imperial hierarchy, investigating plants on their own terms instead of measuring plants according to what they lack with respect to animals and humans (Hall, 2011, pp. 28-35). The arcadian view expressed by Theophrastus was subsequently backgrounded in favor of Aristotle's more imperial view, so that the history of Western approaches to botany, from Aristotle through Carl Linnaeus (1707-1778), can be seen as propagating mostly an imperial view of nature (p. 36).

Although Western philosophies of nature have tended to follow a more imperial than arcadian approach to understanding and responding to the natural world, the arcadian view has persisted. For instance, in the Romanticism of German *Naturphilosophie* (philosophy of nature), Johann Wolfgang von Goethe (1749 – 1832) and Friedrich Wilhelm Joseph Schelling (1775 – 1854) proposed evolutionary theories for which the material world and its ideal structures (archetypes) were not separate realities, but were manifestations of a unified and dynamic evolutionary process, "*dynamische Evolution*" (a term developed by Schelling and adopted by Goethe) (Richards, 2002, p. 10). Schelling viewed natural phenomena in terms of an organic process of development that cannot be captured by the mechanistic explanations that mark imperial views of nature (p. 9). Although this original, arcadian view of evolution was a significant factor in the traditions informing the development of evolutionary theory and ecology, the deeper Romantic spirit was suppressed in favor of the rising mechanistic worldview, eventually reemerging in the 20th century in the works of philosophers like Sri Aurobindo (1872 – 1950) and Jean Gebser (1905 – 1973), with whom articulations of explicitly "integral" philosophies began.

A particularly important figure in the historical development of integral ecologies is the German biologist Ernst Haeckel (1834 – 1919), who first coined the word "oecologie" (from the Greek *oikos*, meaning "dwelling" or "household") in 1866, defining this field of study as a scientific inquiry that would further the development of Charles Darwin's theory of biological evolution. Drawing explicitly on Darwin, Haeckel defines ecology as the study of organism-environment relationships, saying that "ecology is the study of all those complex interrelations referred to by Darwin as the conditions of the struggle for existence" (Merchant, 2007, p. 178).

Haeckel's approach to ecology is, for the most part, indicative of a mechanistic or imperial view of nature. Haeckel's approach is only capable of accounting for ecological relations as "the necessary results of mechanical causes," thus excluding as "unscientific" (p. 179) any accounts of soul, interiority, or agency in the natural world. This does not mean that there is no theology or psychology in Haeckel's view. Rather, his interpretations of God and consciousness are described in terms of his monistic view, according to which God, consciousness, and all of nature can be explained rationally according to mechanistic causes.

While Haeckel's theological and psychological views have been generally ignored or abandoned by subsequent ecological theorists, Haeckel's mechanistic approach to investigating organism-environment interactions became the dominant approach to ecology, and it remains the dominant approach today. Throughout the twentieth century, there have been numerous thinkers who have critiqued that dominant paradigm and proposed alternatives to it. It is in that context that the explicit development of integral ecologies first took place. Integral ecologies, on one hand, challenge the mechanistic approaches to ecology that characterize imperial views of nature while, on the other hand, including the insights achieved through those mechanistic approaches. An example of an important forerunner to an explicitly integral ecology is the American forester and conservationist Aldo Leopold (1887-1948).

Michael Zimmerman (2009) notes two ways in which Leopold's work anticipated integral ecology. First, Leopold accounts for interiority as well as exteriority, such that, "in addition to natural and social science perspectives, people need to bring to bear ethical, cultural, and aesthetic perspectives on land use (environmental) issues"(p. 77). This is reflected in Leopold's experience of a "fierce green fire" in the eyes of a dying wolf he had shot (Leopold, 1989, p. 130). He had previously never comprehended that a wolf and the mountain it inhabits have their own value apart from the measurements and calculations of human use. After experiencing the green fire, Leopold began articulating his land ethic, which aims to overcome the rift between two distinct approaches to the values of the organisms and ecosystems comprising the land. There is an "A" approach, for which the value of land is given in terms of human use and economic value, and a "B" approach, for which the value of land is intrinsic to the land itself, including the integrity and stability (exteriority) of the land as well as its profound beauty (interiority) (p. 221).

The second way in which Leopold anticipated integral ecology is that he understood evolution as a unified and dynamic process that needs to be accounted for not only in biology but also in human moral development (Zimmerman, 2009, p. 78). Just as ethics has extended to encompass villages and tribes, then cities, nations, and eventually all of humanity (e.g., universal human rights), the next phase in human moral evolution is the extension of ethics to the land.

The 'key-log' which must be moved to release the evolutionary process for an ethic is simply this: quit thinking about decent land-use as solely an economic problem. Examine each question in terms of what is ethically and esthetically right, as well as what is economically expedient. A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise. (Leopold, 1989, p. 224)

The land ethic facilitates a moral transformation that reinvents the human species. More specifically, it “changes the role of *Homo sapiens* from conqueror of the land-community to plain members and citizen of it” (p. 204).

The environmental degradation to which Leopold was responding in his life continued increasing after his death in 1948, and as the environmental degradation increased so too did public awareness of it. In the United States, two notable events indicate the growing public awareness of environmental degradation: first, the publication of Rachel Carson’s (1962) *Silent Spring*, in which she warned of the spreading ecological harm caused by the use of the chemical pesticide DDT, and second, the widespread news coverage of the Cuyahoga River (northeast Ohio) catching fire in 1969 due to excessive pollution and debris in the river (Rolston, 2012, pp. 10, 21). Following the growth of the environmental movement in the 1960s, the 1970s saw the emergence of multiple ecologically oriented fields of study in the humanities, including ecofeminism, deep ecology, and environmental ethics (pp. 15-19).

Those fields of environmental humanities aimed to connect the biophysical evidence of ecology with the interior dimensions that had been neglected by the dominant paradigm of ecology (e.g., ethical value, beauty, experience, culture, and religious worldviews). However, those fields were not coordinated with one another or with the biophysical and social sciences that they drew upon. A more comprehensive approach was needed to cross disciplinary boundaries and address the profound complexity of ecological problems. An important example of such an approach comes from the contemporary French theorist Edgar Morin.

Morin’s approach to ecology is grounded in a transdisciplinary method that he describes in terms of “complex thinking,” which crosses boundaries between sciences, social theory, anthropology, philosophy, and more. For Morin, complex thinking “endeavors to connect that which was separate while preserving distinctiveness and differences” (Morin, 1999, p. 114). It is an “ecologized thinking,” which accounts for the recursive interactions and retroactions composing the relations between beings, while also accounting for the “hologrammatic character” of these relations, whereby the whole (e.g., the planet) and the parts (e.g., humans, insects, ecosystems) are internally interconnected, each part present in the constitution of the whole and the whole present in the constitution of each part (p. 130).

Morin’s approach to ecology includes an account of the history of modernization, which he describes as “an evolution toward a planetary consciousness,” in other words, an evolution of “the Planetary Era” (pp. 6, 24). The recognition that humans are inextricably interconnected with one another and with the entire Earth community has been growing rapidly throughout the last five centuries of colonial expansion, militarism, and economic globalization. Although those processes of modernization have supported the emergence of the global environmental crisis, they have also supported the emergence of “planetary solidarity,” which facilitates mutuality and reciprocity between humans and the denizens of the whole planetary community (pp. 106, 116, 130). Morin knows that planetary solidarity is not a given, but is something that must be developed amid the uncertainty of our evolutionary unfolding. Planetary solidarity is possible, but it is “a possible impossible”—an impossible realism, which “*grounds itself in the uncertainty of the real*” (p. 108). Accordingly, the solidarity of our “partnership” in “the complex web of the Planetary Era” does not presuppose any imperial mastery over nature or over ourselves; on the

contrary, this fellowship is based on a realization that humans are “vagabonds of the unknown adventure” (pp. 144-146).

Morin’s work resonates with the approaches to ecology articulated by many of his contemporary compatriots, including Michel Serres, Bruno Latour, and Félix Guattari (Whiteside, 2002). Although their work is not explicitly labeled “integral,” they nonetheless contribute to the quest for an approach to ecology that accounts for the exterior as well as interior facets of ecological phenomena as they are situated in the uncertain dynamics of an evolving universe.

The first explicit use of the term “integral ecology” comes from a marine ecology textbook in 1958 by Hilary Moore, specifically in the distinction between three kinds of ecology: the study of organisms (autecology), the study of ecosystems (synecology), and an integral ecology that includes autecology and synecology (Moore, 1958, p. 7). However, Moore does not include interiority or the humanities, in contrast to thinkers typically labeled “integral.” Aside from Moore’s use of the term, the next mentions of integral ecology began in the 1990s, as three thinkers independently proposed integral approaches to ecology: the cultural historian Thomas Berry, the liberation theologian Leonardo Boff, and the Integral theorist Ken Wilber. The first of these thinkers with a published writing that uses the phrase “integral ecology” is Leonardo Boff in an essay written with a fellow liberation theologian, Virgil Elizondo.

Noting the lack of coordination between the numerous and varied aspects of ecological theories and practices, Boff and Elizondo (1995) articulate the quest for integral ecology.

The quest today is increasingly for an *integral ecology* that can articulate all these aspects with a view to founding a new alliance between societies and nature, which will result in the conservation of the patrimony of the earth, socio-cosmic wellbeing, and the maintenance of conditions that will allow evolution to continue on the course it has now been following for some fifteen thousand million years. (p. ix)

Boff has continued developing his approach to integral ecology, especially in his recent collaboration with Mark Hathaway in *The Tao of Liberation* (Hathaway & Boff 2009), in which integral ecology is defined as an evolutionary vision that brings together three other approaches to ecology. First, there is an “*environmental vision*,” which explores the exteriors of the members and the whole of the Earth community (p. 300). “*Social ecology*” is next, raising socioeconomic and political issues about ecology, including implications of justice, democracy, violence, consumerism, etc. “*Deep ecology*,” thirdly, investigates various kinds of interiority and mentality, including ethical and religious issues of responsibility and reverence for the natural world (Hathaway & Boff, 2009, p. 301). Integral ecology coordinates environmental, social, and deep ecologies, and it situates those ecologies in the evolutionary adventure of the cosmos.

Boff and Hathaway draw extensively on the work of Thomas Berry, whose approach to integral ecology is like the former insofar as it integrates three different registers into a comprehensive vision of the unfolding universe. Berry began developing his integral ecology around the same time that Boff began articulating his. Sean Esbjörn-Hargens (2011, p. 93)

reports that, according to the activist-poet and student of Berry, Drew Dellinger, 1995 is the year when Berry began referring to his cosmological work informally as “integral cosmology or integral ecology”. Berry’s integral ecology is grounded in the “cosmogenetic principle” that he developed with the cosmologist Brian Swimme in their co-written work, *The Universe Story*. As Swimme and Berry (1992) define it, the cosmogenetic principle holds that all evolutionary processes are characterized by differentiation, subjectivity (or “autopoiesis,” i.e., self-organization), and communion (pp. 66-78). Differentiation corresponds to the environmental vision of Boff, which accounts for the differentiated exteriors of things. Subjectivity corresponds to Boff’s version of deep ecology, which accounts for the different kinds of interiority and agency at work in things. Communion corresponds to Boff’s social ecology, seeking to develop mutually enhancing forms of community between humans, the Earth community, and the cosmos as a whole.

Like Berry and Boff, Ken Wilber developed his integral vision around the same time. First published in 1995, Wilber’s *Sex, Ecology, Spirituality* (Wilber, 2000) did not use the phrase “integral ecology,” but it did explicitly develop an Integral framework for addressing ecological issues. That framework is the AQAL model—an “all-quadrant, all-level” model that accounts for physical, mental, and spiritual *levels* of reality, each of which traverses all of the four *quadrants*: subjective (“I”), intersubjective (“We”), objective (“It”), and interobjective (“Its”) (Wilber, 2000, pp. 127-135). Simplified as the “Big Three,” this model clearly corresponds with Boff’s and Berry’s, as it suggests that any phenomenon can be understood in terms of exteriors (“It/s,” including collective systems, “Its,” and the behavior of individuals, “It”) and in terms of subjectivity (“I”) and communion (“We”) (pp. 149-153).

Wilber’s Integral vision was brought into a more explicitly ecological context by the leading Integral theorist Sean Esbjörn-Hargens and the environmental philosopher Michael Zimmerman in their groundbreaking work, *Integral Ecology: Uniting Multiple Perspectives on the Natural World* (Esbjörn-Hargens & Zimmerman, 2009), which applies Wilber’s AQAL framework to ecology while also including insights from other integral ecologists (e.g., Berry, Boff, and Morin). Although Esbjörn-Hargens and Zimmerman privilege the AQAL map to other approaches, they celebrate the emergence of “a variety of integral ecologies,” as they recognize that “much work remains to be done,” including collaborations as well as critiques to help the variety of integral ecologies become more comprehensive in their respective engagements with the depth, complexity, and mystery of beings in the natural world (pp. 487, 552, 667). Such collaborations and critiques are presented in the forthcoming anthology, *Integral Ecologies: Nature, Culture, and Knowledge in the Planetary Era* (Mickey, Kelly, & Robbert, n.d.).

In sum, the diverse variety of integral ecologies reaches back to the arcadian tendencies of the proto-ecologists of antiquity, and it extends into numerous ecological approaches articulated throughout the twentieth century, including the development of explicitly “integral” ecologies by Berry, Boff, Wilber, and Esbjörn-Hargens and Zimmerman. In the remainder of the present essay, we draw out some of the common threads and shared commitments that make integral ecologies unique and make them relevant for contemporary attempts to address ecological issues. We focus on two areas in particular: 1) speculative philosophy and 2) the field of Religion and Ecology, both of which reflect the aim of integral ecologists to cross-disciplinary boundaries to include multiple perspectives on the interiority as well as exteriority of ecological phenomena.

Speculative Ecology

The quest for integral ecology suggests a re-visioning of ecology in a more comprehensive context, which is evident in the cosmological visions of integral thinkers like Berry, Boff, and Wilber. Accordingly, in articulating the common threads connecting integral approaches to ecology, we draw attention to the shared commitment of integral ecologies to speculative inquiry, which facilitates the development of comprehensive visions of the cosmos and the place of humans therein. Here, one might ask, what does speculative philosophy have to do with ecology? Are we not mixing the empirical world of the natural sciences with the subjective world of a philosopher's fantasy? Far from a regressive exercise, introducing elements of speculative thought into ecological thinking allows for a new mode of integrative practice that can greatly aid in relating human beings to the larger Earth community. Integral ecology can be understood as speculative ecology in an etymological sense. "Speculative" (or "speculation" more generally) connotes "contemplation," "seeing," or "observing." It is also a term used when transactions involve a considerable risk or unknown outcome. One could say, then, that "speculation" is the art or practice of risky contemplation. The second word, "ecology," also has a variety of meanings. As a whole the word refers to the branch of science dealing with organisms, environments, and their coevolution. The "eco-" comes from *oikos* which is Greek for "home" or "dwelling place," and the "-logy" means the science, discourse, or theory of something, deriving from the verb *legein* ("to speak") and the noun *logos*, which can variously mean "speech," "reason," or "divine word." "Ecology," then, is the *logos* of dwelling, the discursive elaboration of the coevolutionary contexts of organisms and environments.

We could thus define speculative ecology as the risky contemplation of inter-dwelling beings. Furthermore, insofar as ecology is about understanding the relationship between living beings and their worlds, and insofar as speculation involves making a claim about the reality of being and the world (beyond *our* interests in them), one can say that speculative philosophy and ecology go hand in hand. As an integral practice, speculation involves taking everything that we know, and everything we know about *what* and *how* we know, and using these tools to respond to the demands of a given situation. In a sense, speculation is about taking a point of view that is both deep and wide in the attempt to understand how our own bodies are both subjects of speculation and the vehicles by which we speculate. But speculation is also about drawing a line, about questioning the very practice of who gets to draw lines where. It is about determining when the infinite regress of critique (i.e., the subject that knows about how the subject knows about how subjects know) has gone too far. Thus speculation makes a claim about the situation it attends to from *within* the limits of that very situation.

This mode of speculative ecology is one we can think of as akin to what Isabelle Stengers (2010) calls "cosmopolitics," Bruno Latour (1993) calls a "parliament of things," Val Plumwood (2002) calls "dialogical interspecies ethics"—further echoed by her commitment to "earth others," or what Donna Haraway (2008) calls "companion species." Speculative ecology also resonates with Alfred North Whitehead's (1978) claim that "We find ourselves in a buzzing world, amid a democracy of fellow creatures," (p. 50) which is not unlike Thomas Berry's (1999) vision of the universe as a "communion of subjects" (p. 82). Ecology implicitly involves coordinating these complex spaces where the multiple interlocking worlds that make up Earth are mobilized. In this way, any question with an ecological component—involving, say,

questions about land use, ethics, and eating habits, or spiritual practices, resources, and social justice—necessarily brings with it the consideration of not just diverse peoples, but diverse peoples, their worlds, and all the nonhuman beings that get caught up in the human dramas of political decision making.

The quest for integral ecology is the ongoing struggle to understand the needs and worlds of these humans and nonhumans in all their relations, including their contradictory, mutually exclusive entanglements as well as their complementary and symbiotic connections. It is about developing of a vision for which all beings possess agency and interiority, such that there is “something that it’s like” to be a bat, squid, or barracuda. In other words, integral ecology requires a speculative leap into the phenomenological experience of other beings. It means practicing what Ian Bogost (2012) calls “Alien Phenomenology”—a task that requires empirical science, but also an imaginative leap into the worlds (i.e., subject positions) of other creatures. From this perspective, we find that humans are not simply engaged within an “ecology of mind,” as Gregory Bateson (2000) put it, but rather that the human mind emerges within context of myriad other beings.

There is an ecology of minds. This ecology of minds pre-dates the existence of human beings by at least four billion years, and finds its genesis at the very emergence of life on Earth. Thus, in addition to the material conditions of ecosystem functioning, integral ecologies are concerned with theorizing the interlocking forms of interiority present within all ecological communities. Integral ecologies in their speculative mode are thus a matter of playing a game of risky contemplation of the worlds of other beings, risky contemplation of what it is like to be something else, something nonhuman, in the hopes that such practices of thought can open up spaces for new ecological practices to emerge.

Religion in Integral Ecology

The quest for integral ecology is a quest to expand the concern of ecological work to include scientific inquiry along with all fields of study and aspects of human life, thus providing a well-rounded way of viewing ecological problems and developing potential solutions. Seeking to include a vast set of perspectives and fields of study, as well as personal and social perspectives, integral ecologists consider the multifarious dimensions of an ecological problem—cultural, religious, psychological, social. Beginning with the work of Thomas Berry, scholars have addressed the religious dimensions of ecological issues, giving rise to a new field of study: religion and ecology. The field of religion and ecology seeks to integrate religious discussions of moral obligations towards the earth with similar ecological discussions. With the ecological implications of religious systems in the forefront, the hope is that followers will consider the environmental effects of their personal decisions. Integral ecologists who consider the religious dimensions of environmental problems bring ethical concerns to the forefront of ecological conversations.

Catholic priest and cultural historian Thomas Berry used the term “integral ecology” in the mid-1990s around the time Leonard Boff and Ken Wilber were also developing ideas about the term. While religion is an important theme for each of those thinkers, we focus in this paper on Berry as a paradigmatic example of how integral ecology engages religious perspectives. Berry

considered himself a geologist, or historian of the cosmology of Earth. His focus on deep time, beginning with the moment the universe began, pervaded his ideas about integral ecology. Berry provided a vision of the integral ecologists as spiritual leaders who understands the implications of cosmological insights for the future. Berry's first published use of the term "integral ecologist" occurs in his 1996 essay entitled "An Ecologically Sensitive Spirituality." The essay was published in 2009 as part of a collection entitled *The Sacred Universe: Earth, Spirituality, and Religion in the Twenty-first Century*, edited by religious historian Mary Evelyn Tucker (2009). After recounting the spiritual legacy of North America, Berry claimed the Western world needs a new form of spiritual guidance. The current teachers, scholars, and religious leaders provide inadequate guidance because they do not prioritize relationships with Earth. Instead, "we need an ecological spirituality with an integral ecologist as spiritual guide" (Berry, 2009, p. 135). Berry recognized an understanding both of science and religion will be necessary in the future. The two can no longer be separate and distinct pieces of our realities and lives. This is a crucial component of the scholarly project of the field of integral ecology.

Berry called on integral ecologists to lead in uncertain times and create a new religious system based on both science and spirituality. He claims:

The integral ecologist is the spokesperson for the planet both in its numinous and its physical meaning, just as the prophet was the spokesperson for the deity, the yogi for the interior spirit, the saint for the Christian faith. In the integral ecologist, our scientific understanding of the universe becomes a wisdom tradition. (Berry, 2009, p. 136)

Not only will the integral ecologist understand ecological science, but he or she will be able to articulately communicate to others. Berry compared the integral ecologist to honored religious teachers to place them among the populace. In his vision, integral ecologists will be teachers speaking widely about the numinous and moral implications of ecological knowledge. Integral ecology fully incorporates the physical and spiritual history of the earth and draws on the most basic aspects of human life—clean water, clean air, healthy food, and a safe place to live. Respect for these elements forms the basis of an ecologically sensitive spirituality not focused on transcendent possibilities, but grounded in our immanent realities and local bioregion while accounting for universal connections. The integral ecologist incorporates these spiritual aspects into their worldview and directs others to also do the same.

Influenced by Berry's work, Mary Evelyn Tucker and John Grim, both Senior Lecturers and Research Scholars at Yale University with joint appointments in School of Forestry and Environmental Studies as well as the Divinity School and the Department of Religious Studies, established the field of religion and ecology. This burgeoning field began with a conference series entitled "Religions of the World and Ecology" hosted by Harvard University's Center for the Study of World Religions between 1996 and 1998. Tucker and Grim provided the impetus behind the conferences, which brought together over 700 scholars and environmentalists to talk about how religious beliefs and practices are entangled with ecological concerns. The conferences resulted in the World Religions and Ecology series consisting of ten books describing each of the world's religions in relation to ecological concern (Tucker and Grim, 2001, p. 13). The work is now hosted at Yale University and bears the name the Forum on Religion and Ecology.

Scholars of traditional religions in this field seek to *retrieve* existing practices and beliefs that promote sustainability, *reevaluate* texts with an ecological lens, and *reconstruct* practices and beliefs that do not support sustainability. Religious morals that translate into environmental ethics are at the forefront of the field. During retrieval, scholars work to clarify ecologically sensitive aspects of existing texts and bring forward latent teachings that could augment more popular ones. Reevaluative work questions the relevance of existing teachings to contemporary environmental problems. Scholars who reevaluate traditional religious texts and teachings seek to find practices and beliefs that can be adapted to the present and identify concepts that may be detrimental to the ecological project. Reconstruction borrows Berry's vision within traditional religions by asking these systems to find creative ways to modify their practices or create new ones within the religion (Tucker and Grim, 2001, pp. 16-17). The intersection of religious and ecological practices can help formalize beliefs regarding sustainability by bringing existing practices to the forefront or encapsulating new ethical principles in religious creeds. These three methods of approaching religious traditions speak to an integral perspective by questioning religions from many angles. The scholars who take on these projects are leading religions to incorporate an ecological sensitive spirituality, fitting Berry's vision of the integral ecologist as spiritual guide. Moreover, Berry's vision is not restricted to the traditions of the world religions (e.g., Islam, Buddhism, Confucianism), but is also relevant to emerging forms of religion and spirituality, typically categorized as new religious movements (NRMs). Consider, for example, Paganism.

Contemporary Paganism, an earth-based nature religion, has much to add to the discussions in the field of Religion and Ecology. Paganism is an umbrella term for a group of religious systems held together as either recently created religions or modern interpretations of ancient traditions which seek to re-enchant the natural world, embracing a sense of animation and reciprocal relationship, and place humanity as part of the environment rather than above or beyond it. Many of the world's religions have ancient origins and are struggling to adjust to newfound environmental awareness. While contemporary paganism draws inspiration from ancient sources, the religion has developed along with growing environmental awareness and directly addresses the environment in its beliefs and practices. This positioning gives pagans a valuable perspective and potentially places them as integral ecologists. The relevance of paganism to integral ecology is further indicated by the fact that pagans bring a primarily, though not exclusively, female voice to the table (Berger, Leach, and Shaffer, 2003, p. 27). With women as the majority of adherents and a strong concept of female divinity, discussions that include Paganism must address women's participation. This stands in contrast to the relatively male-centered perspectives that dominate world religions. In short, paganism is enduring as a religious system and can be considered along with the world's major religions in integral discussions of religious and ecological ethics.

Seeking new, ecological forms of religious expression, integral ecology involves inquiry into what religious studies scholar Bron Taylor calls "dark green religion," which requires a deep sense of connection to nature and sees the earth as sacred and interconnected (Taylor, 2010, p. 13). In his most recent publication, *Dark Green Religion*, Taylor(2010) uses the term as an umbrella heading to describe any, "religion that considers nature to be sacred, imbued with intrinsic value, and worthy of reverent care" (Taylor, 2010, p. ix). He includes within this concept animism and Gaian earth religions, which either could be spiritual, having a supernatural

agency, or naturalistic, without a supernatural component. He describes four categories of dark green religion: Spiritual Animism, Naturalistic Animism, Gaian Spirituality, and Gaian Naturalism. Spiritual Animists and Naturalistic Animists both seek to communicate with non-human nature, but the former includes a belief in the supernatural while the latter does not. Similarly, Gaian Spiritualists also have a belief in the supernatural in a pantheistic or panentheistic sense while Gaian Naturalists do not. Gaians see the universe or planet as alive, conscious, or at least metaphorically resembling an organism (Taylor, 2010, p. 15). All of Taylor's examples of dark green religion privilege nature, and his sweep is broad, including radical environmentalism, surfing, and Disney movies in his conceptualizations of dark green religion (Taylor, 2010, pp. 71, 103, 132). While these examples would not typically be considered religious expression, he sees a new form of earth-based spirituality forming through these exemplars. While Taylor does not use the term integral ecologist, his conception of dark green religion fits into Berry's use of the term as a spiritual guide centered on relationships with Earth.

Integral ecology celebrates the very act of living on Earth as thinking, conscious beings in relationship with other similar beings and respects the places where we live. Because of this, religion is an important aspect of integral ecological study. Berry's foresight provided the image of the integral ecologist as a spiritual guide and leader, as someone who would integrate science and spirituality into a comprehensive understanding of the world which would lead to a widespread understanding of the importance of the environment. Since Berry's work, scholars and practitioners have engaged the intersection of ecology and religious studies through the field of religion and ecology and through exploring new and emerging forms of spirituality. Scholars are working to retrieve, reevaluate, or reconstruct beliefs and practices to assimilate ecological knowledge. The field of integral ecology encourages this type of relationship between seemingly disparate fields. Integral ecology allows us to bring our whole being to the study, honor multiple perspectives, and participate in the cosmopolitical work of composing a vibrant Earth community.

Conclusion

The quest for integral ecology has given rise to multiple approaches for understanding and responding to the complexity, depth, and mystery of ecological phenomena. Some of those approaches are implicitly integral (e.g., arcadian ecology, the complex thought of Morin, the cosmopolitics of Stengers) and some are explicit in designating themselves as integral (e.g., Berry, Boff, Wilber). This variety of integral ecologies is not a problem to be overcome in favor of one single approach. Indeed, as Esbjörn-Hargens and Zimmerman (2009) recognize, "there is no single solution" to ecological issues (p. 339). What is called for today is a diversity of integral solutions, and that diversity can be enhanced by cultivating the diversity of integral ecologies. In other words, an integral approach to ecology "need not be contained within any single framework" (p. 540). Moreover, the diversity of integral ecologies is not without common threads, as we have indicated in drawing attention to the shared commitments of integral ecologies to cross disciplinary boundaries in efforts to engage in speculative modes of philosophical inquiry and to further the study of the religious dimensions of ecological issues.

Let a thousand integral ecologies bloom! The rich contrasts between them provide a wide array of opportunities for humans to participate in the emergence of a flourishing planetary civilization. They provide opportunities for humans to participate in the Great Work of our time. As Berry (1999) defines it, our “Great Work” is “to carry out a transition” from the current destruction of the Earth community “to a period when humans would be present to the planet in a mutually beneficial manner” (p. 3). The quest for such a transition is precisely the quest for becoming integral; “We are here to become integral with the larger Earth Community” (p. 48).

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