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Integral Ecology

A POST-METAPHYSICAL APPROACH TO ENVIRONMENTAL PHENOMENA[1]

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Integral Theory provides a distinct and participatory approach to Ecology. This article introduces Ken Wilber's Integral Theory, distinguishes the Integral approach from other methods, and applies some key concepts to Ecology. The ontology, epistemology, and methodology of environmental phenomena are examined in light of Wilber's framework and the framework is applied to multidimensional examples of recycling. Finally, an Integral Ecology platform is presented.

Introduction

Currently, there are over 200 distinct approaches to and perspectives on ecology and environmental problem solving.[2] Yet many environmental approaches, even in their most inclusive moments, still exclude important domains of research and understanding. Many approaches, movements, authors, and activists specialize in and advance a narrow domain of concern and make it paradigmatic for everyone. Fewer approaches and activists recognize that they specialize in one or a few domains and build alliances with other domains. Nevertheless, these attempts still fall short of an Integral approach, in which manifold perspectives and knowledge claims are included in a coherent and sophisticated way such that the complexity of any given environmental situation is honored.

While there are numerous eco-philosophies and frameworks available today, there is no single framework that integrates all these approaches. While each approach highlights an essential component for an environmental philosophy of action, it remains partial because it excludes other important dimensions of reality. To transcend this fragmentation and situate all approaches within a single framework, Integral Ecology applies Ken Wilber's "all-quadrant, all-level" (AQAL) model.[3] Integral Theory unites the myriad of eco-philosophies and strategies so that

they can inform and complement one another. In addition, an Integral approach highlights the difficulties inherent in an approach divorced from an understanding of individual and cultural developmental dynamics in individuals, cultures, and nature.

Cultivating mutual understanding between perspectives is an essential component in addressing our environmental problems. Mutual understanding, as it is understood here, refers to the cognitive, emotional, and interpersonal capacity to hold perspectives contradictory to one's own and to do so as if they *were* one's own. Mutual understanding requires one to embody a perspective seemingly at odds with their personal, political, or professional viewpoint. This capacity has been described by developmental researchers: Robert Kegan's 5th order of consciousness;[4] Jean Gebser's integral-aperspectival worldview;[5] Jurgen Habermas' domination-free discourse;[6] and Ken Wilber's vision-logic.[7] Integral Ecology holds that anything less than a worldcentric capacity to hold multiple perspectives will cripple viable solutions to environmental degradation. As leaders, we will find solutions to our environmental crisis largely through our increasing capacity to transcend and include our ideological, class, cultural, racial, and gender differences. Ecologists, activists, and environmental leaders must therefore increase their capacity to inhabit various worldviews and coordinate between them.[8]

The general public has been saturated with ecological information and yet they have not dramatically altered behaviors responsible for serious eco-psycho-social problems. Additional information is not in and of itself enough! Changing social, economic, and ideological positions alone is not enough. Integral Ecology believes that awareness of developmental dynamics, the capacity to hold multiple worldviews, and individual transformation are a crucial addition in achieving these behavioral changes and altering our current treatment of the biosphere. By understanding the dynamics and structure of thought transformation we can foster mutual understanding and tailor solutions to all levels of development. Integral Ecology is therefore committed to exploring developmental psychology and its relationship to the self (subjectivity),

culture (intersubjectivity), and nature (objectivity and interobjectivity). Precisely because Integral Ecology includes interior realities (human psychology—developmental and cultural), it offers more comprehensive and effective responses to environmental problems, as it avoids reducing environmental phenomena and solutions to exclusively objective dimensions.

In short, Integral Ecology advances the development and application of a comprehensive approach to environmental issues. This approach organizes insights from various eco-approaches into an all-inclusive framework. Integral also connects the various schools of environmental action to the domain of psychological development and the study of worldviews. This new framework has promising applications in many contexts: outdoor schools, urban planning, wilderness trips, policy development, restoration projects, environmental impact assessments, community development, and green business. Integral Ecology transcends many of the problems that have assailed contemporary partial approaches to the environment, and moves toward a developmentally informed understanding of individuals, cultures, behaviors, and systems. As a result, Integral Ecology draws on the expertise of many disciplines and offers extremely comprehensive, far-sighted, and flexible solutions for the environment—solutions that can carry us into right relationship, at multiple scales, with the earth.

Integral Theory

The American philosopher, Ken Wilber, creator of Integral Theory, has published over twenty books and more than one hundred articles. Many consider him one of the most important intellectual contributors to the contemporary exploration of inter- and transdisciplinary scholarship.[9] Due to the relevance and popularity of his vision, his books have been translated into more than 24 languages.[10] Because of its applicability across disciplinary boundaries, Integral Theory has received wide support from individuals associated with a variety of fields.[11] As Integral Theory is applied to additional disciplines it builds bridges between those disciplines. Consequently, Integral Theory is a framework capable of uniting what modernity has split

asunder: the four dimensions of objectivity, interobjectivity, subjectivity, and intersubjectivity (and their respective levels of complexity). For an overview of key terms and concepts of Integral Theory please consult the Appendix.

Integral Ecology reflects on: *what* part of reality one focuses on (e.g., what quadrants are privileged); *who* is looking at that part of reality (e.g., what levels of development are represented); and *how* is one investigating that reality (e.g., what native perspectives or methods of inquiry are used)? Integral Ecology proposes that the *What* consists of at least *Four Terrains* and their *Twelve Niches*, the *Who* consists of at least *Eight Ecological Selves*, and the *How* consists of at least *Eight Ecological Modes*. Integral Ecology seeks to understand the relationship between knower and known, in which reality (what is objective), the onlooker (what is subjective), and the method (what is intersubjective) interact in complex ways. As a result, Integral Ecology arguably provides the most comprehensive conceptual and practical framework from which to approach ecological and environmental issues. Integral Ecology strives to honor all niches of environmental concern, all selves of environmental worldviews, and all modes of environmental inquiry: all-niches, all-selves, all-modes. These ecologically explicit categories are a unique theoretical contribution to Integral Theory: operationalizing Integral Theory in the context of ecological practice and discourse.

The Four Terrains

There are four irreducible and correlated dimensions (subjectivity, intersubjectivity, objectivity, and interobjectivity). Yet ecological science to date is predominately understood in objective and interobjective terms. Ecological realities clearly have subjective and intersubjective dimensions! The richness and complexity of environmental phenomena cannot be understood or described solely through objective modes of inquiry. To honor and include all aspects of wild, rural, and urban ecologies we must recognize that ecosystems are only one of four terrains of any environmental occasion. For every interobjective understanding of complex interacting energy

flows, balances, cycles, patterns, and networks, there are objective observations of movement, behavior, activity, and form; subjective realities of experience and perception; and intersubjective spaces of shared meaning and mutual resonance. To fully understand the (inter)objective dimensions, we must understand the subjective and intersubjective dimensions. If we only study ecosystems through objective modes of inquiry, then we only study one-forth of environmental phenomena! This (inter)objective-only approach, the mainstay of most ecologists, is akin to studying a pond by observing its surface (e.g., the coming and going of birds, the shifts in water color, the types of waves which form). If we do not explore the depths of the pond, its complexity is left uncharted. Likewise, we discover very little of environmental phenomena if we confine our inquiry to behaviors and systems and exclude the sophisticated methodologies to explore the felt-experiences and cultural horizons of those beings (human and nonhuman) who are members of any ecosystem.[12]

Integral Ecology inquires into all four quadrants, or Four Terrains: *Behavioral Terrain* (behaviors at all levels of organization); *Experience Terrain* (experiences at all levels of perception); *Systems Terrain* (systems at all levels of ecological and social intersection); and *Cultural Terrain* (cultures at all levels of mutual resonance and understanding). These Four Terrains are foundational to Integral Ecology, a complex representational and non-representational ecology of environmental phenomena. Integral Ecology explores the complex ways that distinct and irreducible networks of experiences, networks of cultures, networks of behaviors, and networks of systems co-arise in complex ever-encompassing networks at all levels of ecological manifestation.

The Experience Terrain includes the subjective experiences (e.g., somatic, emotional, cognitive, spiritual) of human and nonhuman members of the natural world. Examples of the Experience Terrain include: how a person experiences a mountain in her body as she hikes up to a bluff; how a crane experiences a diminishing food supply as its wetlands are drained for a local housing

project; how a red-legged frog experiences the electromagnetic discharge from power lines placed over its pond; how someone living in a large city experiences disconnection from the natural world; and how a redwood tree experiences acid rain.[13]

The Cultural Terrain includes the shared horizons (e.g., morals, symbol systems, meaning, affect, experience) that exist between and across human and nonhuman members of the natural world. Examples of the Cultural Terrain include: how a herd of elk makes sense of a local logging project; how different aspects of the natural world come to symbolize complex realities for different human cultures; how a male mountain lion understands a mating call from a female in heat; how various communities of people relate to the natural world during particular historical periods; how some bird species borrow song segments from other birds to create their own melody; and how a backpacker can share mutual understanding with a bear encountered on the trail.[14]

The Behavioral Terrain includes the physical boundaries or surfaces (e.g., skin, cell membranes, organs, tissues) and actions and movements (e.g., growth, digestion, flight, sleep) of human and nonhuman members of the natural world. Examples of the Behavioral Terrain include: the pH and chemical composition of river water that winds through an industrial agriculture area; the distance between branches on a palm tree; the time intervals between a sheep's feeding patterns if it has been injected with growth hormones; the act of recycling; the number of eggs a hen mallard lays; and the metabolism of slugs.

The Systems Terrain includes the functional interaction (e.g., food chains, mating rituals, migration patterns, competition) and influence (e.g., pollution, seasons, and weather patterns) of human and nonhuman members of the natural world. Examples of the Systems Terrain include: how economic development effects watershed dynamics; how deforestation relates to drought cycles; how succession patterns in a temperate rain forest are altered due to road building in the

area; how over-hunting deer influences the nutrition flows within various biozones; and how inner city traffic causes climate change.

The Four Terrains are represented below by figure 3. Within each quadrant, the primary mode of knowing the reality associated with that ecology is listed: *subjective* realities are most accurately revealed through *felt-experience* (e.g., direct perception, introspection, phenomenological investigation, meditation, body scanning); *intersubjective* realities are most accurately revealed through *mutual resonance* (e.g., dialogue, energetic connection, shared depth, participant-observer techniques, interpretation); *objective* realities are most accurately revealed through *observation* (e.g., measurement, laboratory observation, field research, chemical testing); and *interobjective* realities are most accurately revealed through *functional fit* (e.g., part-whole relationships, observation of systemic dynamics, instrumental function, energy flows, feedback loops, statistical analysis). Each of the Four Terrains employs different techniques, injunctions, and methods to inquire into its respective dimension. I provide a more nuanced presentation of each mode of methodological investigation, associated with each Terrain, in the section "The Eight Ecological Modes."

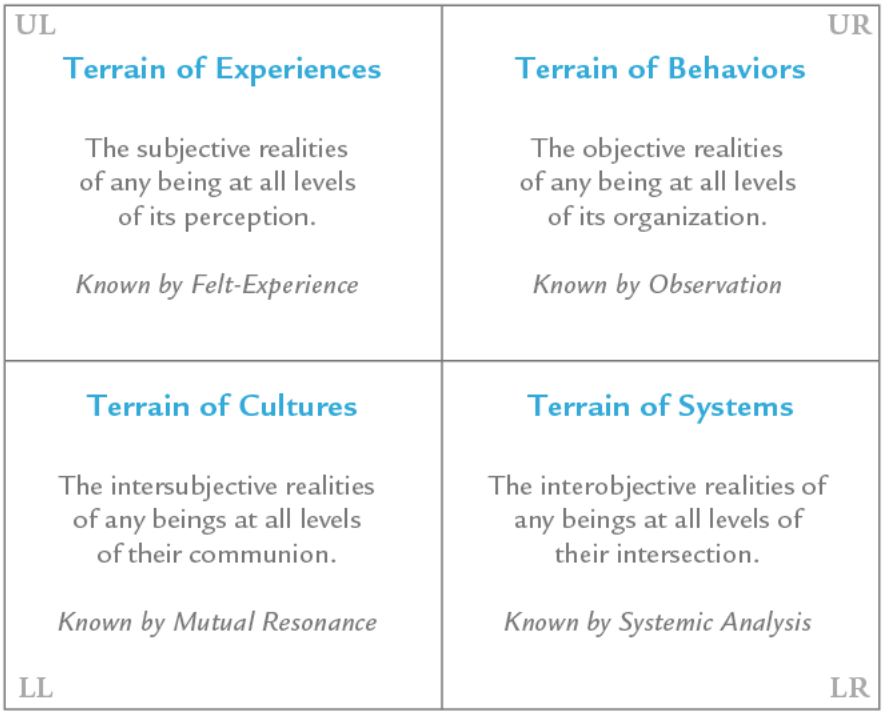

Figure 3. The Four Terrains

The Twelve Niches

Each of the Four Terrains has levels of complexity and depth. While many levels of complexity can be identified, Integral Ecology presents at least three broad levels. These levels represent increasing degrees of complexity within both exterior and interior realities. The three levels within each of the Four Terrains create the *Twelve Niches* of environmental concern. These niches represent the numerous aspects of reality that various environmental approaches often specialize in or take to be primary. For example, Ecopsychology specializes in *psyche*: the psychological dynamics of grief and disconnection from the natural world; Environmental Justice specializes in *institutions* and *action*: the relationship between social systems and intentional conduct; Eco-phenomenology specializes in *soma* and *communion*: somatic realities and intercorporeal dimensions; Gaia Theory specializes in *movement* and *intersections*: physical movement and natural systems; and Natural Capitalism specializes in *institutions* and

intersections: the integration of social systems and natural systems. The boundaries between the Twelve Niches, as with all ecological niches, are permeable and fluid. It is not easy or necessary to define where one ends and another begins, for they flow into each other in a symphony of complexity. The Twelve Niches are summarized in figure 4 with a short description of the domain (e.g., psychological dynamics) and a single word to refer to that domain (e.g., Psyche).

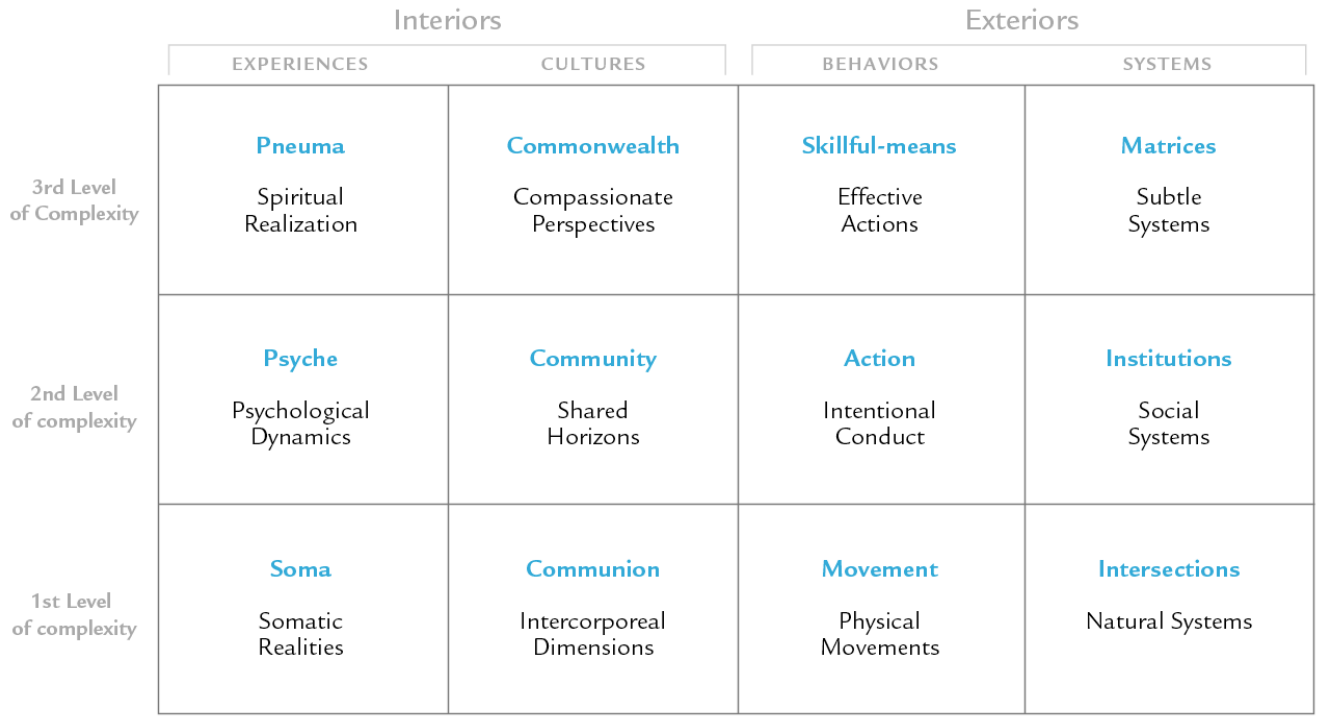

Figure 4. The Twelve Niches of Environmental Concern[15]

No niche (or domain) of any level (e.g., somatic realities) occurs without the other niches of that level (i.e., intercorporeal dimensions, physical aspects, or natural systems). The four niches of every level arise simultaneously, because each niche of a level is a different aspect of the same phenomenon. For example, a mule deer simultaneously has somatic realities, intercorporeal dimensions, physical movements, and is member of natural systems. One aspect does not occur before or after the others. These niches co-arise. A change in one creates a change in the others.

These niches are *not* separate phenomena. This is not to minimize the unique qualities of each niche but to highlight the interconnection between all aspects within a given level.

More complex levels include less complex levels. For example, worldviews transcend and include intercorporeal dimensions, which in turn, include all of level one. Likewise, there can be a physical (or subtle) body without an intentional mind but there cannot be an intentional mind without a physical (or subtle) body.[16] There can be an intentional mind without spiritual experiences, but if there are spiritual experiences then there must be an intentional mind and a physical (or subtle) body. In other words, a single niche does not occur in isolation; all the niches of the same level, along with all the niches below co-arise, even if they are outside of our awareness.

An Integral Ecologist commits to holding all niches within their field of attention, because all twelve niches are present and available within each moment. The niches represent ontological entities, which are not independent of an observer though they might be independent of you observing them.[17] Obviously, some situations require placing more attention on one or a few niches, but the other niches cannot be ignored or reduced to their correlates. Each niche is irreducible to any other and can only be fully understood on its own terms. Each niche has a tradition of experts (a community of the adequate) that have documented its contours and provided methods to access and understand its realities. The more niches that are acknowledged and included, the more sustainable any given project becomes.

The Twelve Niches of Recycling

The Twelve Niches of environmental concern serve as an ecological checklist for any environmental project, issue, or situation. For instance, if we analyze recycling from an Integral perspective, we would explore how recycling manifests in each niche.

At the first level of complexity there exists: *Soma* (the way the body feels during the act of recycling); *Communion* (the shared cultural practices associated with recycling, such as washing out milk cartons and crushing tin cans); *Movement* (the physical acts and behaviors associated with recycling); and *Intersections* (the ecological impact of recycling).

At the second level of complexity there exists: *Psyche* (the different psychological states and dynamics connected with recycling, such as pride, guilt, and fear); *Community* (the conceptual and ideological dynamics supporting or preventing recycling); *Action* (the power, race, and class realities involved in recycling); and *Institutions* (the laws, politics, education, and economics supporting or preventing recycling).

At the third level of complexity there exists: *Pneuma* (the various worldcentric and planetcentric experiences encountered through recycling); *Commonwealth* (how recycling resonates with various worldcentric or religious-symbolic systems and values); *Skillful-means* (the act of recycling as modeling sustainable behavior); and *Matrices* (the subtle energetic benefits for the earth due to recycling).

The Four Terrains and their respective Twelve Niches represent the ontology of Integral Ecology: the *What* of knowing. Now I will turn toward the epistemology of Integral Ecology: the *Who* of knowing. Integral Ecology takes a "participatory" approach—the known is never understood apart from the knower, the perceived always arises in the context of a perceiver. To understand the complexity of enacted or co-created spaces let's explore each pole (ontological and epistemological) separately. After outlining the *Eight Ecological Selves* and their respective epistemologies, I will focus on the various modes of inquiry: the *How* of knowing. These modes connect the Eight Eco-Selves (epistemology) to the Twelve Niches (ontology). Only after exploring the *What*, the *Who*, and the *How* can we understand the complex tetra-mesh and recursive relationship that exists between these three aspects of all environmental phenomena.[18]

The Eight Ecological Selves

Integral Ecology identifies at least eight basic levels of development. These eight contemporary levels arise individually and collectively. Development is not a merely progressive, linear, or hierarchical process. It is a complex, holarchical development. Thus, Integral Ecology identifies Eight Ecological Selves to consider in any genuine Integral approach to the environment. The Eight Ecological Selves represent the various ecological perspectives that can exist within all individuals. The Selves are based on the "value memes" of Spiral Dynamics Integral and the Action-Inquiry research of Cook-Greuter and Torbert.[19] Different Ecological Selves tend to gravitate towards different ecologies. The Ecological Selves embody the various value systems that individuals can embody in relation to the natural world. Most people embody multiple value systems, while others overly identify with a single value system. A growing number of integrally aware individuals are able to relate to all eight of these value systems from an empathic place of shared depth and understanding.

The Eight Ecological Selves and their SD/Tobert & Cook-Greuter correlations are the Guardian (Purple/Impulsive), the Warrior (Red/Opportunist), the Manager (Blue/Diplomat), the Strategist (Orange/Expert & Achiever), the Radical (Green/Individualist), the Holist (Yellow/Strategist), the Integral Ecologist (Turquoise/Magician), and the Sage (Coral/Ironist). Due to its minimal expression in the environmental literature, the Beige vMeme of SD is not represented. Each Eco-Self has a unique way of relating to the natural world. In brief, the *Eco-Guardian* respects nature; the *Eco-Warrior* wants to conquer nature (or in some cases culture); the *Eco-Manager* is dedicated to managing nature from a religious or secular framework; the *Eco-Strategist* not only wants to manage nature but wants to use nature, and, in many cases, exploit nature for some kind of profit (usually capital); the *Eco-Radical* wants to save nature for all of humanity and often for its intrinsic value; the *Eco-Holist* wants to unite nature's multiple flows so the complex system can flourish; the *Integral Ecologist* celebrates nature as holonic and honors all ecological perspectives; the *Eco-Sage* is "one with" nature.

All eight of the Eco-Selves have strengths and weaknesses. They all have an appropriate environmental ethos within their worldview and the capacity to be ecologically destructive. One ecological self is not necessarily more environmentally friendly than another. For example, the shadow of the Eco-Radical (e.g., browbeating people with guilt, shame, and apocalyptic messages) is arguably less in service of a sustainable ecology than the virtue of the Eco-Manager (e.g., passing and enforcing laws and establishing institutions to protect the natural world). Making the distinction between the dignity and disaster of each Ecological Self provides Integral Ecology with a nuanced framework for analyzing environmental problems. Integral Ecology honors all Eight Ecological Selves and cultivates the capacity to embody all of them by disidentifying with one's own preferred perspective and sensing the different perspectives within oneself. This creates understanding and helps the Integral Ecologist apply skillful means.

Any of the Eco-Selves can have a peak experience of gross, subtle, causal, or nondual union with Gaia. The distinction between *stages* of development and *states* of consciousness is crucial to navigate the complexity associated with the Eight Eco-Selves and their multiple ways of relating to the natural world.

All examples are intended to be illustrative rather than confining. These developmental maps point to important distinctions and qualities. They are not intended to dilute the complexity of each approach. Many approaches and their proponents inhabit multiple sites of ontology, epistemology, and methodology. Integral Ecology is not interested in compartmentalizing or restricting the multifaceted nature of any approach. On the contrary, it is committed to identifying those voices that are most qualified to speak on behalf of their reality. In so doing, Integral Ecology can better coordinate and build bridges between divergent but essential perspectives.

The Eco-Guardian (*romantic ethos*)

The *Eco-Guardian* takes a "New Age" approach to the environment. Here, the focus is on a return to the lost ecological paradise. Sometimes the "fall" from ecological grace is associated with horticulture (some Deep Ecologists), agriculture (some Ecofeminists), or industrialization (some Social Ecologists). For the Eco-Guardian there is often an emphasis on magic or unseen forces. This approach is very "tribal" in that there is an importance placed on ancestral ways; animistic beliefs are commonly present, customs are important, and ceremonial rituals and rites of passage serve as a way of connecting with the natural world. There is an appeal to the mystery of nature, especially through signs and omens. Councils, especially of elders, and linage connections are respected. Leadership is often based on age. Shamans and witches are seen as the gatekeepers of the world of spirit/nature.

Examples of the Eco-Guardian can include aspects of: Earth Goddess groups such as Starhawk[20] and Sjoo;[21] nature worship such as Albanese;[22] Totemism a la Levi-Strauss;[23] eco-rituals as outlined by Brodle[24] or Foster;[25] Wicca;[26] paradise lost perspectives;[27] the cultural appropriation of indigenous practices;[28] and some forms of Deep Ecology[29] and Ecofeminism.[30]

The Eco-Warrior (*heroic ethos*)

This *Eco-Warrior* takes a heroic approach to the environment. Here, the focus is on the assertion of the self over the system or nature. There is often a "to hell with others" attitude. An emphasis is usually placed on obtaining power and not being constrained or locked into something. There is often a desire for respect and an appreciation for the "Law of the Jungle" and "Nature red in tooth and claw." Impulsivity and immediate reward drive this value system. Leaders are established by power and strength. A macho quality feeds into heroic images of one person against everything. Toughness is highlighted with groups often being gang-like. The kind of knowledge prized in this value system is "hands on," "survival," and "street" skills. Various types of turf-wars are common for the Eco-Warrior and they experience minimal guilt.

Examples of the Eco-Warrior can include aspects of: EarthFirst!;[31] Monkey Wrenching;[32] ecotage;[33] ecoterrorism;[34] the stoic mountain climber;[35] extreme sports such as mountain biking, river kayaking, rock climbing;[36] trophy and sports hunting;[37] frontier mentalities;[38] survival skills;[39] off-the-grid housing;[40] Social Darwinism;[41] and Warwick Fox's "desiring-impulsive self."[42]

The Eco-Manager (*stewardship ethos*)

The *Eco-Manager* takes a stewardship approach to the environment. Here, the focus is on maintaining order and following the law, either the divine order or the laws of the state. Principles of rightful living are enforced. There is an order that must be maintained to keep harmony and stability. Nature is managed properly now so the future will hold nature's bounty. People follow the higher authority and comply with rules and regulations to avoid punishment. There is a sense of duty to do what is right (according to authority). Leaders are those who have seniority or those who are in the rightful position. Honor and obedience are prized attributes. Justice and fairness are provided to those who follow the rules. Frequently they assume a moralistic tone.

Examples of the Eco-Manager can include aspects of: the earth viewed as Garden of Eden;[43] Puritan ethos;[44] Boy and Girl Scouts;[45] Environmental Protection Agency;[46] environmental legislation;[47] Fish and Game wardens;[48] National and State Parks;[49] wildlife management;[50] Endangered Species Act;[51] Ducks Unlimited;[52] and Audubon Society.[53]

The Eco-Strategist (*rational ethos*)

The *Eco-Strategist* takes a rational approach to the environment. Here the focus is on the use of technology to enhance the standard of living. Progress is emphasized and the "good life" is sought. Value is placed on autonomy and independence. Life is a game to be played and won. Financial achievement is the measure of success. For the Eco-Strategist, there is a desire to make things better and to use competition to accomplish this. Science is highly valued and universal

rights are emphasized. An opportunistic vision of the future is embraced. The invisible hand of the economy is respected.

Examples of the Eco-Strategist can include aspects of: Natural Capitalism;[54] Conservationism;[55] Resourcism;[56] Lockean Worldview;[57] the science of ecology;[58] Deontological Ethics;[59] urban planning;[60] Utilitarian perspectives;[61] Environmental Pragmatism;[62] Environmental Psychology;[63] behavioral approaches;[64] industrial agriculture;[65] and Warwick Fox's "rationalizing-deciding self."[66]

The Eco-Radical (*equality ethos*)

The *Eco-Radical* takes a postmodernist approach to the environment. Here the focus is on the liberation of all humans and animals from greed and domination. The Eco-Radical commits to promoting community and unity and to sharing resources across class, gender, and racial divisions. An effort is made to explore the interiority of other people and beings and to connect with Spirit. Consensus is prized as a way of making decisions and avoiding hurt feelings. Participation is highlighted and team work emphasized. Social responsibility and political correctness are expected. Sensitivity and tolerance are valued. Often the community comes before the individual. Socially engaged activism is used to overcome oppressive hierarchies and power structures.

Examples of the Eco-Radical can include aspects of: Deep Ecology;[67] Ecofeminism;[68] Social Ecology;[69] Animal Rights;[70] Biocentrism;[71] Ecocentrism;[72] Ecopsychology;[73] Environmental Justice;[74] green politics;[75] David Abram's Eco-Phenomenology;[76] the analysis of historical concepts;[77] Bioregionalism;[78] various doomsayers and apocalyptic approaches;[79] and the social construction of nature.[80]

The Eco-Holist (*holistic ethos*)

The *Eco-Holist* approaches the environment from a holistic-complex perspective. Here the focus is on the dynamic systems that overlap in any given situation. Conflicting truths are held simultaneously. For the Eco-Holist, there is a demand for flexible, open systems that allow for the full range of reality to express itself. Nature is seen as having a variety of scales where multiple processes can be integrated. There is an existential emphasis on *being* and personal responsibility. Hierarchies are replaced with holarchies. Leadership is given to those who can hold a multiplicity of perspectives. The diversity of people and perspectives are celebrated on their own terms. The Eco-Holist honors the value of all perspectives. Multiple "big-picture" views are embraced to make meaning. Skillful means are used to maintain flows within systems and to meet people where they are. Complex systemic interactions are understood. Chaos and complexity are valued and paradoxes are embraced. Non-linear capacities are cultivated. Transparency becomes important. There is very little anxiety or fear and a reduced drive for status and power.

Examples of the Eco-Holist can include aspects of: Félix Guattari's Three Ecologies;[81] The New Cosmology;[82] Teilhard de Chardin's Noosphere;[83] the Gaia Hypothesis;[84] Gregory Bateson's Ecology of Mind;[85] the system sciences of Chaos and Complexity;[86] Charlene Spretnak's Ecological Postmodernism;[87] Aldo Leopold's Land Ethic;[88] sustainable development;[89] Edgar Morin's Complex Thought;[90] Biodynamic Agriculture;[91] Duane Elgin's Awakening Earth;[92] Kealey's application of Jean Gebser's work to environmental ethics;[93] Process Ecology;[94] Leonardo Boff's Liberation Theology;[95] and Warwick Fox's "normative-judgmental self."[96]

The Eco-Integralist (*inclusive ethos*)

The *Eco-Integralist* approaches the environment from a holonic perspective. Here, the focus is on both vertical and horizontal axes of reality and all living entities and their respective perspectives. The self is seen as part of a larger, conscious whole. Global networks are important

and the entire living system is appreciated. Patterns of the whole are experienced. Responsibility is to the whole/part, above self/individual or group/whole system interests. Multidimensional thinking (i.e., systems of systems) occurs. Holism is understood as an interactive phenomenon where participation co-creates the whole. Transpersonal realities become more accessible. For the Integral Ecologist, there is an emphasis on the importance of psychological development. Macro-management is emphasized. Meta-theories are used to hold complexity. Whole earth networks and interconnections are emphasized. Global awareness is encouraged. Broad ranges of interest abound in an effort to understand the multivalent quality of reality. The Integral Ecologist has a sense of belonging to the universe and an awareness of the multiple flows (e.g., evolutionary, chaotic, conceptual) within natural processes, both ecological and sociological. This value structure honors the complexity of copious systems cascading into each other.

Some of the main differences between the Eco-Holist and the Eco-Integralist include: that the latter uses multidimensional thinking/feeling (systems of systems of systems) without viewing the realities of one system through the realities of another system, whereas the former tends to make use of only one or two systems usually through an interobjective framework. An Eco-Integralist embraces a participatory, nonrepresentational (i.e., post-metaphysical) perspective while the Holist tries to map the world more accurately through modeling. Eco-Holists look at the maps they create whereas Eco-Integralists place themselves into the map. An Eco-Integralist is acutely aware that current solutions may contribute to future problems in ways it cannot imagine or recognize, while the Eco-Holist tends to think that its perspective is the best solution to the problem. An Eco-Integralist embraces the interiority (experience and culture) at all levels of sentient beings while the Eco-Holist often restricts interiority to the "higher" animals. The Eco-Integralist makes use of or honors all eight methodological families for disclosing reality while the Holist honors just a few. The Eco-Integralist not only acknowledges that things are getting ecologically worse (i.e., planetary destruction) but that they are also getting better (i.e., planetary protection and awareness) while the Holist only emphasizes one of the poles in this

apparent paradox. Eco-Integralists seek and value paradox while Eco-Holists try to account for it. The Eco-Integralist's unwavering commitment to the biosphere is grounded in the recognition of the emptiness of all phenomena: they recognize the theosphere as transcending and including the noosphere and biosphere whereas the Eco-Holist is often identified with just the physiosphere (matter), biosphere (life), and noosphere (mind).

Examples of Integral Ecology include: Bhutan's "Middle Path" to development;[97] Brian Tissot's work with marine fisheries in Hawaii;[98] Michael Zimmerman's environmental philosophy;[99] Darcy Riddell's eco-activism in Canada's Great Bear Rainforest;[100] Brian Eddy's Integral Geography;[101] Cameron Owens' analysis of waste reduction in Calgary;[102] Joel Kreisberg's environmental medicine;[103] Kevin Snorf's Integral Eco-design;[104] Gail Hochachka's Integral Community Development;[105] Wade Prpich's analysis of the organic standard of Canada;[106] David Johnston's (forthcoming) market transformation in Alameda County, California; and Ian Wight's "placemaking."[107]

The Eco-Sage (*unity ethos*)

The *Eco-Sage* approaches the environment from an authentic transpersonal perspective that transcends and includes the previous Eco-Selves. Thus, as discussed above, it takes more than having peak states of union with the natural world to be an Eco-Sage. Here, the focus is on the subtle ways of being connected with the natural and human realm. There is an increased capacity for self-identification with aspects or members of the natural and human worlds. A variety of unitive states are experienced with Gaia in its gross, subtle, and causal manifestations. For the Eco-Sage, there can be the experience of subtle-realm beings both of the Earth plane (e.g., elementals and nature spirits) and other dimensions (e.g., the archetypal realm). The Eco-Sage has a deep commitment to all sentient beings (seen and unseen) and an increased capacity to work with the energetic systems of the manifest, subtle, and causal planes.

Examples of the Eco-Sage can include aspects of: Transcendentalism;[108] J.W. Goethe's *Urpflanze*;[109] St. Francis of Assisi's Canticle of Brother Sun;[110] Ken Wilber's Eco-Noetic Self;[111] Joanna Macy's Ecological Self;[112] Chris Bache's Species Mind;[113] some Neo-Pagans;[114] Non-dual Spiritual Activism;[115] Masanobu Fukuoka's Natural Farming;[116] McClellan's Nondual Ecology;[117] and Warwick Fox's "transpersonal-ecological self."[118]

There are numerous individuals or approaches that many people would be inclined to place in the list above. For example: Black Elk;[119] Matthew Fox's Creation Spirituality;[120] Ralph Metzner's Green Psychology;[121] Ayahuasca Visions;[122] Shamanism;[123] Vision Quests;[124] and Deva Gardening[125] just to name a few. These individuals and approaches include many extremely important "spiritual" qualities, insights, and dimensions, which are considered essential to Integral Ecology. Any of the Eco-Selves can experience altered states. In fact, as mentioned, each Eco-Self has access to gross, subtle, causal, and nondual experiences of the natural world. However, they will interpret these non-ordinary states according to their "center of gravity" of psychological development. The distinction is that the Eco-Sage represents a stabilized capacity to experience transpersonal dimensions *and* the distinguishing capacities of the other Eco-Selves. As a result there are at least 32 distinct varieties of nature mysticism—only four of which are associated with the Eco-Sage.

The examples provided for each Ecological Self are not fixed. Almost any example provided for any Eco-Self can be held from many of the levels. For example, the rhetoric of Deep Ecology, which is listed as an example under the Eco-Radical, can be used to support and justify neo-pagan rituals (Purple values), monkey wrenching (Red values), environmental legislation (Blue values), green capitalism (Orange values), and social activism (Green values). Deep Ecology, as the other examples, tends to embrace or express one of the eight Eco-Selves more than the others. This does not deny the many "camps" or variations within any one school of thought, especially given that individuals can use the rhetoric of one value system to support their own. In

other words, the Eight Ecological Selves correspond to researched levels of psychological development; placement is dependent on interior psychological motivation and value systems, not outward behavior.

As individuals evolve into more complex waves of being, they enfold previous waves and optimally have access to them all. As an individual assimilates new value systems, aspects of the previous value structures remain available when their expression is appropriate. Consequently, people often contain multiple value structures within themselves but primarily identify with one.

Eight Good Reasons to Recycle

Different levels of ecological identity can support the same behavior. Therefore, it is difficult to ascertain an individual's motivations based on exterior behaviors. Below we explore the hypothetical motivation for each of the Eight Ecological Selves to recycle.

Using the framework of the Eight Ecological Selves, a variety of motivating value sets and dispositions can be demonstrated to support a single action such as recycling. Below are brief statements that elucidate symbolically each Eco-Self and which can serve as an illustration of the kinds of motivations that can support a single behavior.

Eco-Guardians are motivated to recycle because it is seen as a ritual to keep the spirits or forces of nature satisfied. If they do not recycle, they risk creating disorder in the mysterious balance of things.

Eco-Warriors either refuse to recycle, because they view recycling as a form of control over their own will, or they recycle as an act of heroism fighting for the earth's salvation. Whether or not they recycle, they perceive themselves as losing the battle against the industrial juggernaut.

Eco-Managers are motivated to recycle because they feel it is their duty, either to God or to the nation state. If they do not recycle, they will be subject to punitive measures by authorities or feel guilty for placing the order of the system at stake.

Eco-Strategists are motivated to recycle because it makes good long-term sense. It conserves resources for consumption at a later date, and therefore supports the bottom line of profit. If they do not recycle, they are passing up an opportunity to save or make money.

Eco-Radicals are motivated to recycle because it is good for the community and the planet. It saves resources, which can help address social and economic imbalances. If they do not recycle, they are faced with apocalyptic consequences that amount to ecocide.

Eco-Holists are motivated to recycle as a way to keep the energies of the earth in dynamic flow. Recycling for them makes systemic sense and is viewed as part of complex feedback mechanisms. If they do not recycle, it could produce disastrous and unpredictable systemic results.

Eco-Integralists are motivated to recycle because it is important for the Earth, for humanity, for the nation state, for members of the community, and for themselves. Here, recycling is an act of dynamic synergy that is performed for multiple, even contradictory reasons. If they do not recycle, it could disrupt natural, cultural, social, and personal harmony.

Eco-Sages are motivated to recycle because for them it is a beautiful and rightful act that simply flows from their being. If they do not recycle, they feel pain as if they have transgressed their own body.

These simplistic examples illustrate that various worldviews understand and respond to environmental issues for completely different reasons, so we must consider individual and cultural interiors when searching for viable solutions to complex environmental issues. It is

ineffective to impose the values of one worldview upon another: one cannot convince an Eco-Strategist to recycle for the reasons that an Eco-Radical does. Instead, we must translate the meaning of one value set to another, so that the terms of one perspective can be assimilated into another. Translation only begins to occur at an Integral level of psychological development, because it is the first worldview that can hold multiple worldviews. As a result, the Integral Ecologist is uniquely positioned to serve environmental problem solving, especially when multi-stakeholders (with different levels of development) are involved.

The Eight Ecological Modes

Some methodologies are better equipped to reveal certain domains than others. In order for the various Eco-Selves to examine any of the Twelve Niches of reality, they must employ a particular methodology. Integral Ecology acknowledges that there are at least *Eight Ecological Modes* through which we can know our environment. The Eight Ecological Modes represent the main methodological families that individuals (and their accompanying worldview) can use. The methods are named in a particular way, based on the definition provided and examples given; this usage differs in minor ways from how these terms are used in other contexts.[126]

Terrain of Experience

In the Terrain of Experience, Structuralism and Phenomenology are two major modes of inquiry, both of which have important applications for ecology. *Structuralism* examines the outside of experience and maps the developmental stages of interior realities (i.e., a third-person perspective on the first-person realities of an individual). The environmental work of psychologist Peter Kahn is a great example of this,[127] as is the research being conducted in the field of animal consciousness.[128] Others are applying the findings of Harvard psychologist Robert Kegan[129] to environmental issues.[130]

Phenomenology, on the other hand, examines the inside of experience and reports felt qualities as they arise in immediate awareness (i.e., a first-person perspective on the first-person realities of an individual). David Abram's work in connecting Merleau-Ponty to ecology is a well-known example.[131] In addition, Andy Fisher draws heavily on the tradition of phenomenology.[132] Recently, Eco-phenomenology has emerged as a distinct field.[133] Much of Ecopsychology and Deep Ecology are grounded in the mode of felt-experience. There is also some very interesting research on animal and plant senses.[134]

Terrain of Culture

In the Terrain of Culture, Cultural Anthropology and Hermeneutics are two major modes of inquiry, both of which have important applications for ecology. *Cultural Anthropology* examines the outside of cultures and maps the developmental or structural aspects of shared interior realities (i.e., a third-person perspective on the first-person plural realities of a collective). Duane Elgin's *Awakening Earth* presents the unfolding of environmental worldviews.[135] Much of the work in Environmental Anthropology also employs this method.[136] Some Ecofeminists use this method to compare concepts such as nature, body, and woman.[137]

Hermeneutics, on the other hand, looks at the inside of cultures and the mutual resonance and shared meaning that occurs between individuals or beings (i.e., a first-person plural perspective on the first-person plural realities of a collective). Edward Casey's important work on "place" is illustrative of this mode.[138] Steeves' edited volume on *Animal Others* employs hermeneutics in the context of interspecial connection.[139] Many explorations of the concept of nature or wilderness use hermeneutics.[140] Keller's exploration of technology and the "lifeworld" draws on Hans-Georg Gadamer's theory of science to propose an "ecological hermeneutics."[141] Van Buren applies philosophical hermeneutics to environmental ethics and proposes a "critical environmental hermeneutics."[142] Mugerauer and Basso explore the hermeneutic relationship between landscape and language.[143] Other approaches that use hermeneutics include: the Harvard

project on Religion and Ecology;[144] the study of Traditional Knowledge Systems;[145] Environmental Ethics;[146] and Goethian Science.[147]

Terrain of Behavior

In the Terrain of Behavior, Empiricism and Autopoesis Theory are two major modes of inquiry—both have important applications for ecology. *Empiricism* examines the outside of behavior and relies on the senses, especially sight, and their extensions (e.g., microscopes and telescopes) to record data (i.e., a third-person perspective on the third-person realities of an individual). The "hard" sciences—biology, zoology, botany, chemistry—predominately apply empiricism. Additional approaches that use this mode include: eco-tourism, an individual engaged in natural building, energy efficiency, and the analysis of environmental behaviors such as recycling and buying "green" products.

Autopoesis Theory, on the other hand, examines the inside of behavior (i.e., a first-person perspective on the third-person realities of an individual) and is predominantly associated with the work of the Chilean scientist Francisco Varela and his work in cognitive science and biophenomenology.[148] This mode is relatively new and is currently being developed by many researchers inspired by Varela's pioneering insights.[149]

Terrain of Systems

In the Terrain of Systems, Systems Theory and Social Autopoesis Theory are two major modes of inquiry—both have important applications for ecology. *Systems Theory* examines the outside of systems, focusing on how parts fit together in a complex dynamic whole (i.e., a third-person perspective on the third-person realities of a collective). Most approaches to ecology (e.g., population ecology, community ecology, conservation ecology, ecosystem ecology, and landscape ecology) employ this method.[150] The system sciences, such as Ludwig Von Bartalanffy's General System Theory[151] and Susan Oyama's developmental systems theory, also employ this method.[152]

Social Autopoesis Theory, on the other hand, examines the inside of systems (i.e., a first-person perspective on the third-person realities of a collective). This methodology has been developed predominately by Niklas Luhmann's[153] application of autopoesis to the study of social systems and is explored by Geyer and Zouwen in their work on Sociocybernetics.[154]

Each of these eight methodological families or modes of knowing contain specific injunctions or practices that researchers perform to study their chosen topic. Each methodology provides unique access to aspects of reality. One cannot, for instance, discover the behavioral realities of a red-legged frog using phenomenology—only empirical methods will inform you about that frog's behavior. Similarly, empirical observation will not reveal phenomenological realties, but that does not mean the frog does not have some interior experience of perception and awareness.

The Eight Methods to Understand Recycling

To illustrate the application of the Eight Eco-Modes, I explain how each methodological family would serve a comprehensive understanding of recycling. Of course, more could be stated regarding each method. However, this quick overview should help explicate the various methods.

Phenomenological methods could be used to enact, bring forth, and illumine *subjective* aspects of recycling, such as the felt-experience of somatic realties, psychological dynamics, and spiritual experiences for individuals involved with recycling.

Structuralist methods could be used to enact, bring forth, and illumine *subjective* aspects of the experience of recycling, such as the patterns and sequential stages of experience for different individuals as they recycle.

Hermeneutical methods could be used to enact, bring forth, and illumine *intersubjective* aspects of recycling, such as the various meaning systems (cultural, religious, philosophical) that manifest through and guide recycling.

Cultural Anthropological methods could be used to enact, bring forth, and illumine *intersubjective* aspects of recycling, such as the patterns and reasons various cultures historically and currently reuse products.

Empirical methods could be used to enact, bring forth, and illumine *objective* aspects of recycling behaviors, such as the activities involved with recycling by individuals at all stages of the process.

Autopoetic methods could be used to enact, bring forth, and illumine *objective* aspects of recycling, such as the autonomous recycling behaviors of individuals interacting with their environment.

Systems methods could be used to enact, bring forth, and illumine *interobjective* aspects of recycling, such as its ecological benefits and how it conserves energy flows as well as the political, economic, and legal dimensions to recycling.

Social Autopoetic methods could be used to enact, bring forth, and illumine *interobjective* aspects of recycling, such as institutional forces and forms of communications within multiple systems that self-regulate to prevent or promote a society to recycle materials.

All too often, in approaches to the environment, one methodology is privileged and used aggressively to deny the existence of realities accessed by the other modes. It is not enough merely to mention or honor the realities associated with the different methodologies, without actually using the appropriate mode of inquiry to reveal its realities. For instance, this entire article addresses only a third-person description of first-, second-, and third-person realities

associated with ecosystems and their members and is not a substitute for employing methods to experience, know, and explore first- and second-person dimensions directly.

Integral Ecology asks that all modes of ecological knowing be recognized for their irreplaceable contribution to a fuller understanding of environmental phenomena and that as many modes as possible are used consciously in any given project. For example, if one wants to organize a stream restoration project, its success will increase in direct proportion to the number of modes honored and included. If the project committee only uses the methods of empiricism and systems theory to make decisions, it will not be as sustainable as a project that also is informed by the methods of Hermeneutics, Structuralism, Autopoesis Theory, and so on. Ecological sustainability radically increases when we employ more modes of ecological knowledge (and continues to increase as we consider and include more Niches and Eco-selves). Sustainability increases because the more of reality we acknowledge and factor into a project the more the project will respond to the complexity of that reality. One cannot leave out major dimensions of reality (e.g., psychological or economic) in environmental problem solving and expect long-lasting results. Eventually those realities that have been excluded will demand recognition and incorporation as the design falters and is eventually abandoned for more nuanced and comprehensive strategies. So the best way one can achieve sustainability and effectively troubleshoot, is to acknowledge and include as much of reality as possible in one's efforts. Hence the need for an Integral approach to adequately respond to today's complex eco-social problems. Integral Ecology recognizes that its use of Integral Theory is itself a meta-methodological approach (using eight distinct methodological families) that generates a particular "Integral" understanding and experience of the Kosmos.

In summary, Integral Ecology makes use of three complementary concepts: The Twelve Niches of ecological concern, the Eight Eco-Selves, and the Eight Modes of environmental knowledge. These three components comprise the three legs of the participatory crucible, where

epistemology connects to ontology through methodology. In other words, the various Eco-Selves employ different Modes of inquiry to disclose, through participation, the phenomena associated with the Twelve Niches. Resting upon this triadic understanding Integral Ecology proposes a twelve-point platform.

Michael Zimmerman and I generated the following platform to clarify the purpose and commitment of Integral Ecology.[155] Hopefully, this platform creates a common foundation for a rich variety of Integral Ecologies that can serve our journey through the twenty-first century.

An Integral Ecology Platform[156]

Integral Ecologists recognize that human attitudes, behaviors, institutions, and practices generate complex environmental problems across the globe at multiple scales. In light of this situation, Integral Ecologists embrace the following platform as a foundation for generating the most comprehensive contemplation and action.

1. Integral Ecologists use the conceptual tools of Integral Theory's "all-quadrant, all-level" approach to analyze, characterize, and develop comprehensive solutions to environmental problems.
2. Integral Ecologists recognize there are many ways to honor and include: quadrants, levels, lines, states, types, and bodies.
3. Integral Ecologists examine the enacted nature of phenomena: *What* part of reality is being looked at? *Who* is doing the looking? And *How* is the looking being done?
4. Integral Ecologists recognize the world-disclosing capacities of all perspectives and the methodologies they use to investigate various domains of reality.

5. Integral Ecologists are familiar with *at least* some version of the twelve domains of reality, the eight methods of knowing, and the eight ecological selves.
6. Integral Ecologists situate any domains, methods, or perspectives in which they specialize within the variety of other pertinent domains, methods, and perspectives.
7. Integral Ecologists commit to coordinating and building bridges between various domains, methods, and perspectives, especially in the context of specific environmental problems.
8. Integral Ecologists commit to increasing their capacity to embody and hold additional perspectives to help dismantle the self-other dynamics that involve most environmental issues.
9. Integral Ecologists are engaged in personal long-term transformational practices, which develop their somatic, emotional, psychological, and spiritual dimensions.
10. Integral Ecologists recognize that all life forms have the capacity for experience and perception, as well as an ability for shared horizons of meaning to occur within and across species, but not all life forms have an equal capacity to do so.
11. Integral Ecologists affirm a multidimensional value ethic which suggests that an individual (human or nonhuman) or a process can simultaneously be of equal value, greater value, and lesser value than another individual or process depending on the criteria used.
12. Integral Ecologists affirm the ultimate mystery of all phenomena as a way of preventing attachment to conceptualizations of reality.

Conclusion

There are numerous approaches to the environment—philosophical, spiritual, religious, social, political, cultural, behavioral, scientific, and psychological. Each highlights an essential component, while often ignoring other dimensions. To overcome this fragmentation, Integral Ecology provides a comprehensive framework through which these approaches can unite to inform and complement each other in complex and coherent ways. This approach creates an environmental mandala, an ecology of perspectives that honors not just the physical behaviors and eco-social systems, but also the cultural and intentional aspects at all levels of organization. In addition, Integral Ecology accounts for the multiple worldviews within individuals, communities, and cultures, and their accompanying environmental perspectives, each with its specific logos of mutual understanding. Furthermore, Integral Ecology highlights that the environment and its various niches are revealed differently depending on the mode of inquiry or methodology employed to investigate it. As a result, Integral Ecology identifies eight methodological families to utilize for comprehensive knowledge of any given environmental phenomena.

Integral Ecology takes a participatory approach to ecology by recognizing that environmental phenomena are the result of an interaction between the knower, what is known, and how it is known. Only by becoming aware of the *What, Who*, and *How* of environmental phenomena can we truly integrate the multiple voices calling for a more just and ecologically friendly world. Only then can we generate sustainable solutions to complex, multidimensional problems. By acknowledging and honoring the multivalent nature of ourselves, our communities, and our environment, we can work effectively together towards sustainable solutions. Integral Ecology is committed to the complexity and multidimensionality of this world in its entire mysterious splendor.

A premium is placed on solutions grounded in mutual understanding between divergent viewpoints. By cultivating the capacity to inhabit other perspectives and hold multiplicity, we will respond more thoroughly than current, less comprehensive approaches to the complex problems that currently face our bioregions.

Integral Ecology provides a platform to serve multiple Integral approaches guided by different premises. The common thread between these potentially different Integral approaches is to reflect upon *What* we are looking at, *Who* we are as we as we look, and *How* we are looking at it. By reflecting deeply in this way there is hope in reaching across the many divides that separate us, and enact mutual understanding in service of the environment. May this commitment to reflective awareness serve the liberation and inclusion of all perspectives for the betterment of the natural world and its inhabitants.

Appendix: Key Concepts in Integral Theory

The following represents a survey of important terms and concepts used in Integral Theory. For additional information on Integral Theory consult Wilber's voluminous writings.[157] Recognizing that an in-depth exposure to Wilber's writings is not afforded to many readers, I provide an overview of the conceptual terrain of Integral Theory. In addition, I indicate sources for further research to elucidate each concept. For those already familiar with Integral Theory this section can serve as a helpful summary of the key components of an Integral vision.

Integral

Here is Wilber's (2000) definition of Integral:

> *Integral:* the word means to integrate, to bring together, to join, to link, to embrace. Not in the sense of uniformity, and not in the sense of ironing out all of the wonderful differences, colors, zigs and zags of a rainbow-hued humanity, but in the sense of unity-in-diversity, shared commonalities along with our wonderful differences. And not just in humanity, but in the Kosmos at large: finding a more comprehensive view—a Theory of Everything (T.O.E.)—that makes legitimate room for art, morals, science, and religion, and doesn't merely attempt to reduce them all to one's favorite slice of the Kosmic pie.[158]

Integral Theory is committed to including truth in all its varieties. Integral Theory embraces a position of epistemological and ontological pluralism that strives to present reality on its own terms wherever and however it manifests within the realms of consciousness, culture, society, and nature.

20 Tenets (the Kosmic Patterns)

In *Sex, Ecology, Spirituality* (SES), Wilber outlines twenty tenets he views as "orienting generalizations" to the Kosmos.[159] These twenty tenets serve as the framework for Wilber's entire model; they are the "patterns that connect." Wilber expands on A. N. Whitehead's "Category of the Ultimate," which has three concepts: creativity, the many, and the one.[160] Wilber embraces this formula of an ultimate category (i.e., the category needed to understand all other categories), but he represents it as twofold: creativity and *holon* (many/one).[161] Wilber also expresses this Kosmic dynamic through his concept of "transcend and include."[162]

Wilber claims that reality is not composed of parts or wholes, things or processes but, rather, is composed of whole/parts, which he defines as holons, drawing from Arthur Koestler's work.[163] Wilber formalizes this insight as his first tenet, which indicates the primacy it holds in relation to the nineteen tenets that follow. Wilber proposes that everything is a holon, simultaneously a part and a whole, down to less complex organization (e.g., atoms, quarks, and strings) and up to more complex organization (e.g., plants, reptiles, mammals, and humans). Every thing (part) rests within a context of relationship (whole), which he calls "agency-in-communion." There is a one/many relationship occurring in every pocket of the Kosmos, whether it is in the individual and collective spheres or the interior and exterior dimensions.[164] Wilber's first tenet is a recasting of Alfred North Whitehead's insight that the many (parts) becomes one (whole) and the many are increased by one (a new level of complexity/concrescence).[165] This capacity to include what has been transcended or subsumed leads Wilber to build on Koestler's concept of *holarchy* (as distinct from hierarchy) as a fundamental dynamic of enfoldment and inclusion within the evolution of the Kosmos. The twenty tenets can be summarized in a single sentence: *The Kosmos is an evolving holarchy.*[166]

Holons

In SES, Wilber discusses *individual* and *social* holons at length; the entire third chapter is devoted to the subject. Elsewhere (e.g., *Integral Psychology*), he describes two other types of holons: *artifacts* and *heaps*. Since the Kosmos, according to Integral Theory, is made of holons, it is important to clarify some of the essential differences between these four types of holons.

A holon in the broadest sense is "any whole that is part of another whole." For example, a letter is part of a word, which is part of a sentence, which is part of a paragraph, which is part of a section in an article. However, the relationship between whole and part means something very different with regards to each type of holon. The problems that result from confusing these types of holons have affected systems theory, eco-philosophy, holism, transpersonal psychology, and many so-called "integral" approaches.[167] Individual and social holons have consciousness or interiors while artifacts and "heaps" do not, except to the extent that they are comprised of or contain individual holons. While both individual and social holons have consciousness, individual holons have a dominant monad (a center of awareness or perception), whereas social holons have a dominant mode of discourse and a distributed consciousness (i.e., "nexus agency").

The intricacies of holons are far beyond the scope of this short introduction.[168] Wilber's use of the concept allows him to make some powerful critiques of many contemporary approaches to the environment that often unknowingly perpetuate the problems they purport to address.[169] Interestingly, Wilber's approach to holons shares many important similarities with Hierarchy Theory as employed by ecologists Allen and Starr, O'Neill and colleagues, and Allen and Hoekstra, though it is important to highlight that Hierarchy Theory focuses on individual and collective exteriors at the expense of interiors.[170]

All-Quadrants, All-Levels

Often represented by the acronym AQAL, Wilber's signature phrase "all-quadrants, all-levels" is shorthand for the multiple aspects of reality recognized in an Integral approach. At the very least, the following components should be considered in any situation: *all-quadrants* (i.e., experience, culture, behavior, systems); *all-levels* of psychological development (e.g., preconventional, conventional, postconventional); *all-lines* of psychological development (e.g., cognitive, emotional, moral, kinesthetic, psychosexual); *all-states* of consciousness (e.g., waking, dreaming, deep sleep, altered, meditative); and *all-types* of personalities (e.g., masculine and feminine, or the Enneagram Personality types).[171] The above examples for levels, lines, states, and types are provided from the quadrant of experience but these four elements and their respective examples can be found in all four quadrants.

Integral Theory posits that if an approach excludes any of these components (quadrants or levels or lines or states…) it falls short of a truly Integral position, even if it includes more than other approaches. The task of Integral Theory is to explore ways to honor all these aspects of the Kosmos in all situations. Each aspect is part of each and every moment and arises together. There is no ontological priority assigned to any of the aspects. Because quadrants and levels are the most commonly used aspects of Integral Theory, I will examine them in more detail.

Quadrants

The quadrants represent the four fundamental perspectives available to any sentient being. They express the simple recognition that everything has an interior and an exterior and is both singular and plural. All individual holons (from atoms to humans) have interiors (some form of subjective experience) as well as exteriors (various behaviors and physiological components). In addition, individuals are never just alone but are also members of collectives, which also have interiors (cultural realities) and exteriors (eco-social systems). These four dimensions are represented as:

individual interiors (Upper-Left quadrant: UL), individual exteriors (Upper-Right quadrant: UR), collective interiors (Lower-Left quadrant: LL), and collective exteriors (Lower-Right quadrant: LR). The four quadrants can be referred to as Experience, Behavior, Culture, and Systems respectively. This all-inclusive commitment is represented by figure 1 below, which highlights the quadrants.

The four quadrants are also referred to as the four dimensions of objectivity (UR), interobjectivity (LR), subjectivity (UL), and intersubjectivity (LL). These domains of reality arise in all major languages through first-, second-, and third-person perspectives: "I," "We"/ "You," and "It/s."[172]

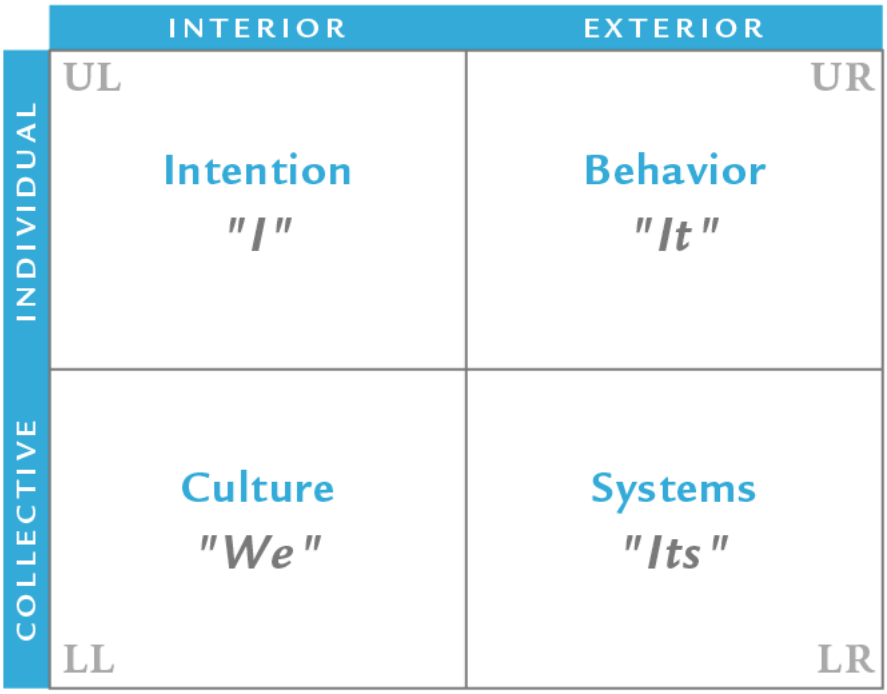

Figure 1. The Four Quadrants

Integral Theory insists that you cannot understand one of these realities (any of the quadrants) through the lens (or logos) of any other. Wilber is a harsh critic of what he calls *flatland:* the attempt to reduce all interiors (i.e., the depth of the Kosmos) to their exterior correlates. He refers

to the reduction of all interiors and systems to material atoms as *gross reductionism* and the reduction of all interiors to systems of interwoven "its" as *subtle reductionism*.

In order to illustrate the simultaneity of each quadrant, I will provide an example to accompany figure 1. Let's say I decide to buy some flowers for the garden. I have the thought, "I want to go to the nursery." Wilber's model demonstrates that this thought has at least four dimensions, none of which can be separated because they co-arise. First, there is the individual thought and how I experience it (e.g., calculating travel time, joy of shopping, or financial anxiety). These experiences are represented by the psychological structure of formal operations and somatic feelings associated with the Upper-Left quadrant (UL). At the same time, there is the unique combination of neuronal activity, brain chemistry, and bodily states that accompany this thought, as well as any behavior that occurs (e.g., putting on a coat, getting in the car). These behaviors are represented by various activities of the complex neocortex and physiological activity of the body associated with the Upper-Right quadrant (UR). Likewise, there are ecological, economic, political, and social systems that supply the nursery with items to sell, determine the price of flowers, and so on. These systems are represented by the interconnection between global institutions, the nation state, and the biosphere associated with the Lower-Right quadrant (LR). There is also a cultural context that determines whether I associate "nursery" with an open-air market, a big shopping mall, or a small stall in an alley, as well as determining the various meanings and culturally appropriate exchanges that occur within the nursery. These cultural aspects are represented by the worldviews associated with the Lower-Left quadrant (LL).

Integral Theory emphasizes that while all phenomena has at least these four distinct correlates (as represented by the quadrants), it is violent to reduce any of the dimensions to its correlates in one or more of the other quadrants. To have a full understanding and appreciation for the occurrence of the thought, "I'm going to the nursery," you cannot explain it fully through just the terms of *either* psychology, *or* neurobiology and physiology, *or* social and economic dynamics,

or cultural meaning. One must consider all of these domains (and their respective levels). In sum, AQAL can be represented by the following statement: consciousness (UL) is embodied in corporeality (UR), embedded in culture (LL), and enmeshed in eco-social systems (LR) at all levels of organization and complexity.

Levels of Development

The levels of complexity within each quadrant are best understood as "probability waves" that are guided by the number of times each wave has been enacted individually or collectively. Each quadrant's levels are correlated (co-arise) with levels in the other quadrants. For example, the goal-driven executive (UL) who has high blood pressure (UR) will most likely be found in a scientific-rational culture or subculture (LL), which usually occurs in industrial corporate states (LR). All of these phenomena are occurring at the same level or "altitude" of complexity within their respective quadrant and are therefore correlated at level five in figure 2.

Levels or waves in each quadrant demonstrate holarchy by transcending and including their previous waves. They inherit the wave of the past and add a new level of organization or capacity. In the *subjective realm* sensations are transcended and included by impulses, which are transcended and included by emotions, which are transcended and included by symbols, which are transcended and included by concepts. Likewise, in the *intersubjective realm*, this dynamic evolves from archaic understandings to magical, to mythic, to rational, and then to integral understandings. In the *objective realm* this movement occurs from atoms to molecules to cells to organisms. And in the *interobjective realm* this occurs in the movement from galaxies to planets to ecosystems to families.

Spiral Dynamics

One of the nested hierarchies commonly used in association with Integral Theory is the values line documented by the pioneering work of psychologist Clare Graves. Graves' work has been

popularized and expanded by Don Beck and Chris Cowan into Spiral Dynamics.[173] Spiral Dynamics has been successfully applied to a variety of community and geo-political issues.[174]

Integral Theory uses SD as an important introductory model to development.[175] The core value systems (represented by various colors called value memes) indicate a developmental telos or unfolding that occurs in individuals and cultures. Movement along the Spiral can be understood simplistically as going from *Beige* values (instinct driven, seeking survival); to *Purple* values (safety driven, seeking harmony); to *Red* values (power driven, seeking gratification of impulses); to *Blue* values (order driven, seeking purpose, truth, and order); to *Orange* values (success driven, seeking analysis, prosperity, and achievement); to *Green* values (people driven, seeking equality, justice, and self-expression); to *Yellow* values (process oriented, seeking to integrate and align various systems); to *Turquoise* values (synthesis oriented, seeking synergy and macro-management); and to *Coral* values (spiritually oriented, seeking an authentic unification between self, other, and world). Historically, Purple is associated with tribal values, Red with colonial values, Blue with traditional values, Orange with modern values, Green with postmodern values, Yellow & Turquoise with the emerging Integral values, and Coral with the rare transpersonal values. While SD and Integral Theory posit a progression of consciousness, this unfolding is not linear in real time but rather can bounce all over the Spiral as the self-system navigates development.

Once an individual stabilizes a value meme, that "vMeme" and the vMemes stabilized before it are available to the person and will express themselves depending on the situations and circumstances in which the individual finds themself. For example, an adult individual who has stabilized at Yellow values can manifest Yellow (integrative) values at work, Red (impulsive) values at their son's high school football game, Blue (order based) values at church on Sundays, Green (sensitive) values at home with their spouse, and Orange (achievement focused) values at the weekly board meeting. However, the individual is not regressing to these other, less-complex

values but rather accessing the capacities associated with those previous values from their current value system, which in this case is Yellow.[176]

The first six memes are characterized as *First-Tier values*, the tendency to think that one's view is a better view than others. At Yellow, the seventh value meme, a radical shift begins to occur and the individual recognizes the importance of all preceding value sets, within oneself and others. With Yellow values, each wave is understood to be an essential component, albeit limited, of the entire Spiral of consciousness. *Second-Tier values* are marked by an increased capacity to understand vertical (developmental) dimensions in a systemic fashion. At this point an individual can fully grasp the complexity of interior development and for the first time understand that each value meme, level, or wave, is absolutely necessary for the health of the entire person and the whole community. All of the SD value memes can be situated in the AQAL model.

Integral Methodological Pluralism

To add further vision and clarity, Wilber recently developed Integral Methodological Pluralism (IMP).[177] IMP is a collection of practices and injunctions guided by the intuition that "Everybody is right" and each practice or injunction enacts and therefore discloses a different reality. As a result, Wilber proposes three principles that secure a position in reality for all perspectives: *nonexclusion* (acceptance of truth claims that pass the validity tests for their own paradigms in their respective fields); *enfoldment* (some sets of practices are more inclusive, holistic, and comprehensive than others); and *enactment* (phenomena disclosed by various types of inquiry differ in large part on the quadrants, levels, lines, states, types, and bodies of the researcher used to access the phenomena). These three principles serve as guardians protecting the various forms of truth disclosed by different methodologies. Wilber describes this commitment to a multi-methodological approach:

> Any truly integral approach touches bases with as many important areas of research as possible before returning very quickly to the specific issues and applications of a given practice…. An integral approach means, in a sense, the 'view from 50,000 feet.' It is a panoramic look at the modes of inquiry (or the tools of knowledge acquisition) that human beings use, and have used, for decades and sometimes centuries. An integral approach is based on one basic idea: no human mind can be 100% wrong. Or, we might say, nobody is smart enough to be wrong all the time. So when it comes to deciding which approaches, methodologies, epistemologies, or ways or knowing are 'correct,' the answer can only be, 'All of them.' That is, all of the numerous practices or paradigms of human inquiry—including physics, chemistry, hermeneutics, collaborative inquiry, meditation, neuroscience, vision quest, phenomenology, structuralism, subtle energy research, systems theory, shamanic voyaging, chaos theory, developmental psychology—all of those modes of inquiry contribute an important piece of the overall puzzle. Since no mind can produce 100% error, this means that all approaches have at least some partial truths to offer an integral conference, and the only really interesting question is, what type of framework can we devise that finds a place for the important if partial truths of all of those methodologies? To say that none of these alternatives are 100% wrong is *not* to say that they are 100% right. Integral approaches can be very rigorous in standards of evidence and efficacy, a rigor that some holistic approaches let go of too quickly in an attempt to be all inclusive.[178]

Eight Native Perspectives

Wilber then added that there are at least eight native (or indigenous) perspectives available to all individual holons. A holon in any quadrant can be understood from the inside or the outside.

Wilber shows how the inside or outside of each quadrant is accessible only through a particular method of inquiry or a methodological family. Each methodology discloses an aspect of reality that other methods cannot. Therefore, the findings of any one method are not accountable to the terms of the other methods. To exclude any of these perspectives (or methods of inquiry) is to fall short of a truly Integral understanding. For Wilber, the eight indigenous perspectives are an important ingredient for a post-metaphysical approach that avoids positing realities "out there" independent of the viewer. As such, Wilber articulates a participatory approach that affirms epistemological and ontological pluralism.

The eight methodological families Wilber identifies are: *Phenomenology*, which explores direct experience (the insides of individual interiors); *Structuralism*, which explores patterns of direct experience (the outsides of individual interiors); *Autopoesis Theory,* which explores self-regulating behavior (the insides of individual exteriors); *Empiricism,* which explores observable behaviors (the outsides of individual exteriors); *Social Autopoesis Theory,* which explores self-regulating dynamics in systems (the insides of collective exteriors); *System Theory*, which explores the functional-fit of parts within an observable whole (the outsides of collective exteriors); *Hermeneutics*, which explores intersubjective understanding (the insides of collective interiors); and *Cultural Anthropology,* which explores patterns of mutual understanding (the outsides of collective interiors). In short, individual holons contain all of these dimensions (as disclosed by these respective modes of inquiry) in each and every moment.[179]

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Endnotes

[1] An earlier version of this article appeared in *World Futures*, vol. 61, nos. 1-2, pp. 5-49.
[2] Consult Esbjörn-Hargens, "Integral ecology: An ecology of perspectives," 2006
[3] To my knowledge the phrase "Integral Ecology" has been used twice independently of Ken Wilber's Integral Theory, both around 1995. It was once used by Leonardo Boff and Virgil Elizondo (1995) and used in 1994 by Thomas Berry in conversation with Drew Dellinger (personal communication). Also, Michael Cohen (1993) has used "Integrated Ecology" to describe his work.
[4] Kegan, *The evolving self: Problem and process in human development*, 1982; *In over our heads: The mental demands of modern life*, 1994
[5] Gebser, *The ever-present origin*, 1985
[6] Habermas, *The theory of communicative action*, 1984-1985
[7] Vision-logic is the first wave of post-rational consciousness. Wilber sometimes refers to this as the centaur or existential level. Unlike rational consciousness, which is linear, vision-logic is a mode of consciousness that is systemic in its patterns. In its more complex forms it consists of working within systems of systems. It is the mode of consciousness that integrates body and mind.
[8] It is not enough, for example, for individuals to identify with the biosphere-as-self (as in Deep Ecology's emphasis on an expanded self-identity). After all, if individuals are "one with Gaia" but lack the capacity to transcend their differences with fellow citizens at local, regional, national, and global levels, little if any progress will occur in securing effective Integral solutions. Integral Ecology recognizes that for an *eco*centric approach to manifest in ourselves, and our communities, individuals have to work together to stabilize *world*centric patterns of relationship. Otherwise, ecologically concerned individuals who are ostensibly one with the earth might propagate dynamics of "othering" against their neighbors as well as various members of the global village. For example, many environmentalists unnecessarily demonize business owners and politicians in an effort to highlight ecological degradation.
[9] Consult Wilber, *The collected works of Ken Wilber,* Vols. 1-8*,* 1999-2000
[10] Frank Visser reports that nineteen of Wilber's books have been translated into over twenty-five languages, making Ken Wilber the most translated academic author in the United States. Visser reports: "Up till now his books have been translated into German, Dutch, French, Spanish, Portuguese, Italian, Russian, Czech, Hungarian, Turkish, Bulgarian, Latvian, Estonian, Slovenian, Slovakian, Serbian, Greek, Hindi, Chinese, (China in Taiwan), Korean, Swazi, Japanese, Polish, Danish, Swedish and Latvian. In addition to these, some illegal editions have appeared in African and Indian dialects." See www.integralworld.net.
[11] In addition to the field of Ecology (Zimmerman, *Contesting earth's future: Radical ecology and postmodernity,* 1994; *Ken Wilber's critique of ecological spirituality*, 1998; "Possible political problems of earth-based religiousity," 2000; "Ken Wilber's critique of ecological spirituality," 2001), Integral Theory has been applied to: Education (Astin, "Conceptualizing service-learning research using Ken Wilber's integral framework," 2000; Fisher, "'Lighting up' the integral: A critical review of Ken Wilber's philosophy and theories related to Education," 2003; Lauzon, "Adult education and the human journey: An evolutionary perspective," 1998); Medicine (Astin & Astin, "An integral approach to medicine," 2002; Paulson, "Topical antimicrobial testing and evaluation," 1999a; Paulson, "Successfully marketing skin moisturizing products," 1999b; Schlitz, Amorok & Micozzi, *Consciousness and healing: Integral approaches to mind-body medicine*, 2004); Nursing (Fiandt, Forman, Erickson Megel, Pakieser & Burge, "Integral nursing: An emerging framework for engaging the evolution of the profession," 2003); Psychology (Mikulas, *The integrative helper: Convergence of Eastern and Western traditions*, 2001); Business (Paulson, *Competitive business, caring business: An integral business perspective for the 21st century*, 2002); Future Studies (Slaughter, "Ken Wilber's path to transformational futures," 1997; Slaughter, "Transcending flatland: Implications of Ken Wilber's meta narrative for futures studies," 1998; Slaughter, "A new framework for environmental scanning," 1999a; Slaughter, "An outline of critical futures studies," 1999b; Slaughter, "Knowledge creation, futures methodologies and the integral agenda," 2001; Slaughter, "Beyond the mundane: Reconciling breadth and depth in futures work," 2002; Voros, "Reframing environmental scanning: An integral approach," 2001); Intersubjectivity (Hargens, "Intersubjective musings: A response to Christian de Quincey's 'The Promise of Integralism,'" 2001); Social Action (Walsh, "Terrorism and other global terrors: An integral analysis," 2002; Moyer, *Doing democracy: The MAP model for organizing social movements*, 2001); Criminology (Gibbs, Giever & Pober, "Criminology and the eye of the spirit: An introduction and application of the thoughts of Ken Wilber," 2000); Music Therapy (Bonde, "Steps toward a meta-theory of music therapy? An introduction to Ken Wilber's integral

psychology and a discussion of its relevance for music therapy," 2001); Politics (Harguindey, *Spirit and politics for the XX1 century*, forthcoming; Roof, "Integral approaches that transform us and the world," 2003; Wilpert, "Integral politics: A spiritual third way," 2001); Art (Grey, *Sacred mirrors: The visionary art of Alex Grey*, 1990; Grey, *The mission of art*, 1998; Grey, *Transfigurations*, 2001; Davis, *Kid Mystic*, 1997; Rentschler, "Introducing integral art," 2006a; Rentschler, "Understanding integral art," 2006b); Near Death experiences (Paulson, "The near-death experience: An integration of cultural, spiritual, and physical perspectives," 1999c); Christianity (Marion, "Putting on the mind of Christ: The inner work of Christian spirituality," 2000; Harris, "Frequently asked questions about Christian meditation: The path of Contemplative Prayer," 2001; Main, *The way of unknowing*, 1985); Religion (Bauwens, "Three challenges for global religion in the 21st century," 2003; Araya, "Integral religion: Uniting Eros and Logos," 2003); and Sustainable Development (Hochachka, "Integral community development in San Juan del Gozo, El Salvador: Including communities, ecosystems and 'interiority' in the developmental process," 2001; Hargens, "Integral development: Taking the middle path towards gross national happiness," 2002).

[12] Not surprisingly, others have come to a similar conclusion and have proposed independently the need for three ecologies. The post-structuralist French philosopher Félix Guattari in his *Les Trois Écologies,* calls for a mental ecology (focused on human subjectivity), a social ecology (concerned with social relations), and a natural ecology (observing environmental processes). Similarly, the voluntary simplicity proponent Duane Elgin in a report to the Fetzer Institute, states: "The 'ecological' challenges we face are not even purely physical. Many are social and spiritual as well. It is difficult to imagine a positive future that does not value, integrate, and balance three major ecologies" (2000, p. 3). He describes a "physical ecology that is sustainable," a "social ecology that is satisfying," and a "spiritual ecology that is soulful." Another manifestation of the three ecologies can be seen insofar as three of the most popular approaches to the environment include: *Deep Ecology* specializing in the subjective realities of self-identity; *Ecofeminism* specializing in intersubjective realities of power, class, race and gender; and *Systems Theory* specializing in the objective realities of complex interactions and feedback loops within living systems at multiple scales.

While both Guattari and Elgin share an understanding of the need to approach the environment recognizing the three value spheres of subjectivity, intersubjectivity, and objectivity—they highlight slightly different aspects within each sphere. This difference in emphasis occurs in part because they are concerned with different aspects or levels within each sphere. For example, in regard to the domain of subjectivity, Guattari emphasizes the mental while Elgin highlights the spiritual.

The different approaches to the three ecologies as represented by Guattari and Elgin further clarify the need for an even larger integrative framework. A framework that not only recognizes the importance of understanding the ecological correlate of each value sphere, but one that can also identify the various levels and aspects (qualities) that exist within each sphere. This is exactly what Integral Ecology provides: a capacity to identify, situate, and interconnect the complexity of each value sphere. As a result, this more accurate map helps to ensure the inclusion and consideration of all aspects of a given environmental situation. This in turn allows all ecosystems (wild, urban, rural) and their members to be honored as having objective, interobjective, subjective, and intersubjective dimensions and results in a truly Integral approach to ecology.

[13] While the individual interiors of nonhuman beings are elusive, they are not inaccessible. An Integral Methodological Pluralism allows the Integral Ecologist to consider and include these important realities even if they remain partially hidden or distinct from human experience. Combining various methodological approaches (e.g., phenomenology, structuralism, hermeneutics, and empiricism) serves to "triangulate" data that provides a bearing on the phenomenological realities of other species in a meaningful way. The interior worlds (the so called "black box") of other species become increasingly discernable with each additional methodology used to shine light on its opaqueness. Jakob von Uexkull (1864-1944), the founder of the field of biosemiotics, developed the concept of *Umwelt*, to refer to the way organisms subjectively perceive, experience, and interpret their environments. Much work is being done to develop Uexkull's concept. Consult his article in the 800+ page special issue of *Semiotica*: Kull (Ed.), "Jakob von Uexkull: A paradigm for biology and semiotics," 2001.

[14] Just as the individual interiors of nonhuman beings are elusive, so are collective interiors or cultures of beings such as insects, birds, and mammals. Nevertheless, this ambiguity does not mean they do not exist or that they do not in some way overlap or "touch" our own interiors. Much work is being done in environmental semiotics (ecosemiotics, biosemiotics, zoosemiotics), interspecial communication, and animal culture (mostly bird and mammal) to shed light on these realities. When these research efforts are set within an Integral Methodological

Pluralism, Integral Ecologists can begin to access, understand, and include nonhuman cultural realities within ecosystems analysis.

[15] It is important to point out that the terms used for Systems in this chart are being used in a specific way to indicate defining characteristics of each level of complexity w ithin this context. I am not implying that social systems are not natural or that social systems are not found at all levels of ecological complexity. Nor am I implying that subtle systems only begin at the third level of complexity—in many cases they begin in natural and social systems. A more accurate set of terms, though less intuitive, would be: preconceptual systems, conceptual systems, and post-conceptual systems.

[16] Consult Wilber, "Excerpt G: Toward a comprehensive theory of subtle energies," 2003f

[17] For a deeper discussion of "ontology" in the context of a post-metaphysical approach consult Wilber, "Excerpts A, B, C, and D," at http://wilber.shambhala.com/.

[18] Here I draw on Edgar Morin, *Homeland earth: A manifesto for the new millennium,* 1999, and his notion of recursivity.

[19] Consult Cook-Greuter, "Postautonomous ego development: A study of its nature and measurement," 1999; Torbert, *The power of balance: Transforming self, society, and scientific inquiry*, 1991; Torbert, *Action inquiry: The secret of timely and transforming leadership*, 2004. Cook-Greuter and Torbert's research is based on Loevinger's Sentence Completion test (over 10,000 tests performed) and their Leadership Development Profile (over 6,000 tests performed). Their research represents the most sophisticated and extensive full-spectrum (prepersonal, personal, post-personal, and post-postpersonal) research available. Their levels match very closely with the levels of Spiral Dynamics. For a graphic comparison between Spiral Dynamics and the Leadership Development Framework created by Paul Landraitis from Integral Development Associate visit http://www.harthillusa.com/.

[20] Starhawk, *The spiral dance: A rebirth of the ancient religion of the great goddess*, 1995

[21] Sjoo, *The great cosmic mother: Rediscovering the religion of the earth*, 1991

[22] Albanese, *Nature religion in America: From the Alonquin Indians to the new age*, 1991; *Reconsidering nature religion*, 2002.

[23] Levi-Strauss, *Totemism today*, 1962

[24] Brodle, *Earthdance: A year of pagan rituals*, 1995

[25] Foster, *The book of the vision quest: Personal transformation in the wilderness*, 1992

[26] Moura, *Green witchcraft: Folk magic, fairy lore & herb craft*, 1996; Lipp, *The elements of ritual: Air, fire, water & earth in the Wiccan circle*, 2003

[27] Tobias, *A vision of nature: Traces of the original world*, 1995; Diamond, *In search of the primitive*, 1981; Horon, *The pure state of nature: Sacred cows, destructive myths and the environment*, 2000

[28] Huhndorf, *Going native: Indians in the American cultural imagination*, 2001; Taylor, "Earth spirituality or cultural genocide? Radical environmentalism's appropriation of Native American spirituality," 1997; Deloria, *Playing Indian*, 1998; Martin, "The American Indian as miscast ecologist," 1981

[29] Shepard, *Nature and madness*, 1982; Goldsmith, *The way: An ecological worldview*, 1993; Berman, *The reenchantment of the world*, 1981

[30] Adams (Ed.), *Ecofeminism and the sacred*, 1994; Low & Tremayne (Eds.), *Sacred custodians of the earth? Women, spirituality and the environment*, 2002

[31] Zakin, *Coyotes and town dogs: Earth First! and the environmental movement*, 1995

[32] Abby, *The monkey wrench gang*, 2000; Forman, *Ecodefense: A field guide to monkeywrenching*, 1993

[33] Love, *Ecotage*, 1972; Manes, *Green rage*, 1990

[34] Arnold, *Ecoterror: The violent agenda to save nature; The world of the Unabomber*, 1997; Scarce, *Eco warriors: Understanding the radical environmental movement*, 1990

[35] Bell (Ed.), *Seven summits: The quest to reach the highest point on every continent*, 2000

[36] Olsen, *Women who risk: Profiles of women in extreme sports*, 2003; Soares & Powers, *Extreme sea kayaking: A survival guide*, 1999

[37] Chapman, *What a hunter brings home: Pursuing the trophies that matter most*, 2001; Etling, *Hunting superbucks: How to find and hunt today's trophy mule and whitetail deer*, 2001

[38] Nash, *Wilderness and the American mind*, 1982; Fussell, *Frontier: American literature and the American west*, 1965

[39] McPherson & McPherson, *Primitive wilderness living & survival skills: Naked into the wilderness*, 1993

[40] Stein, *When technology fails: A manual for self-reliance and planetary survival*, 2000; Bingham, *The NEW passport to survival: 12 steps to self-sufficient living*, 1999
[41] Hofstadter, *Social Darwinism in American thought*, 1992
[42] Fox, *Towards a transpersonal ecology: Developing new foundations for environmentalism,* 1990
[43] Merchant, *Reinventing Eden: The fate of nature in western culture*, 2003; Nash, *Wilderness and the American mind*, 1982
[44] Nash, *Wilderness and the American mind*, 1982; Carroll, *Puritanism and the wilderness: The intellectual significance of then New England frontier, 1629-1700*, 1969
[45] Schwartz & Schwartz, *The scouting way*, 2001; Baden-Powell, *Scouting for boys: A handbook for instruction in good citizenship*, 1992; Mechling, *On my honor: Boy Scouts and the making of American youth*, 2001
[46] Landy, Roberts & Thomas, *The Environmental Protection Agency: Asking the wrong questions; From Nixon to Clinton*, 1994
[47] Kubasek & Silverman, *Environmental law*, 2001; Hutter, *A reader in environmental law*, 1999
[48] Hodges, *Sworn to protect*, 1999; Grosz, *Wildlife wars: The life and times of a fish and game warden,* 1999
[49] Spence, *Dispossessing the wilderness: Indian removal and the making of the national parks*, 2000
[50] Anderson, *Managing our wildlife resources*, 2001; Butcher, *American's national wildlife refuges: A complete guide*, 2003
[51] Czech & Krausman, *The endangered species act: History, conservation biology, and public policy*, 2001; Noss, O'Connell & Murphy, *The science of conservation planning: Habitat conservation under the Endangered Species Act*, 1997
[52] Tennyson, *A singleness of purpose: The story of ducks unlimited*, 1977
[53] Graham & Buchheister, *The Audubon ark: A history of the National Audubon Society*, 1992
[54] Hawken, Lovins & Lovins, *Natural capitalism,* 1999
[55] Hays, *Conservation and the gospel of efficiency: The progressive conservation movement, 1890-1920*, 1999
[56] Oelschlaeger, *The idea of wilderness: From prehistory to the age of ecology*, 1991
[57] Nash, *Wilderness and the American mind*, 1982
[58] Dodson (Ed.), *Ecology,* 1998; Brown & Real (Eds.), *Foundations of ecology: Classic papers with commentaries*, 1991; Ricklefs & Miller, *Ecology*, 1999
[59] Des Jardins, *Environmental ethics: An introduction to environmental philosophy*, 1993
[60] Alexander, *A pattern language: Towns, buildings, construction*, 1977; Register, *Ecocity Berkeley: Building cities for a healthy future*, 1987
[61] Des Jardins, *Environmental ethics: An introduction to environmental philosophy*, 1993
[62] Light & Katz, *Environmental pragmatism,* 1996
[63] Bell, Greene, Fisher & Baum, *Environmental psychology*, 1996; Bechtel & Churchman, *Handbook of environmental psychology*, 2002
[64] Brower & Leon, *The consumer's guide to effective environmental choices: Practical advice from the Union of Concerned Scientists*, 1999
[65] Kimbrell, *The fatal harvest reader*, 2002
[66] Fox, *Towards a transpersonal ecology: Developing new foundations for environmentalism*, 1990
[67] Sessions (Ed.), *Deep ecology for the 21st century*, 1995; Drengson & Inoue, *The deep ecology movement: An introductory anthology*, 1995
[68] Warren, *Ecofeminism: Women, culture, nature*, 1997; *Ecofeminist philosophy,* 2000; Mies & Shiva, *Ecofeminism,* 1993; Griffin, *Woman and nature: The roaring inside her*, 1978; Diamond & Orenstein, *Reweaving the world: The emergence of ecofeminism*, 1990; Keller, *Reflections on gender and science*, 1995; Plumwood, *Feminism and the mastery of nature*, 1993
[69] Bookchin, *The philosophy of social ecology: Essays on dialectical naturalism*, 1990; Watson, *Beyond Bookchin: Preface for a future social ecology*, 1996
[70] Regan, *The case for animal rights*, 1983; Rollin, *The unheeded cry: Animal consciousness, animal pain, and science*, 1989
[71] Taylor, *Respect for nature*, 1986; Schweitzer, *Civilization and ethics*, 1946
[72] Rolston, *Philosophy gone wild: Essays in environmental ethics*, 1986; *Environmental ethics: Duties to and values in the natural world*, 1988

[73] Roszak, Kanner & Gomes, *Ecopsychology: Restoring the earth, healing the mind*, 1995; Sewall, *Sight and sensibility: The ecopsychology of perception*, 1999; Fisher, *Radical ecopsychology*, 2002
[74] Cole & Foster, *From the ground up: Environmental racism and the rise of the environmental justice movement*, 2000; Adamson, Evans & Stein (Eds.), *The environmental justice reader: Politics, poetics, & pedagogy*, 2002
[75] Goodin, *Green political theory*, 1992; Whiteside, *Divided natures: French contributions to political ecology*, 2002
[76] Abram, *The spell of the sensuous*, 1996
[77] Worster, *Nature's economy: A history of ecological ideas*, 1994; Nash, *Wilderness and the American mind*, 1982; Golley, *A history of the ecosystem concept in ecology: More than the sum of the parts*, 1996; Merchant, *The death of nature: Women, ecology, and the Scientific Revolution*, 1980
[78] Vitek & Jackson, *Rooted in the land*, 1996; Sale, *Dwellers in the land: The bioregional vision*, 1985
[79] Pimm, *The world according to Pimm: A scientist audits the earth*, 2001; McKibben, *The end of nature*, 1999
[80] Evernden & Leslie, *The social creation of nature*, 1992; Simmons, *Interpreting nature: Cultural constructions of the environment*, 1993
[81] Guattari, *The three ecologies*, 2000
[82] Swimme & Berry, *The universe story—From the primordial flaring forth to the ecozoic era: A celebration of the unfolding of the cosmos*, 1992; Berry, *The dream of the earth*, 1988
[83] Berry, *Teilhard in the Ecological Age*, *Teilhard Studies, Num. 7*, 1982; O'Brien, "Teilhard's view of nature and some implications for environmental ethics," 1988
[84] Lovelock, *Gaia: A new look at life on earth*, 2000
[85] Bateson, *Steps to an ecology of mind*, 2000
[86] Capra, *The web of life*, 1996; Laszlo, *The systems view of the world: A holistic vision for our time*, 1996
[87] Spretnak, *The resurgence of the real*, 1999
[88] Leopold, *A Sand County almanac and sketches here and there*, 1949
[89] Berkes & Folke, *Linking social and ecological systems*, 2002; Gunderson & Holling, *Panarchy: Understanding transformations in systems of humans and nature*, 2001
[90] Morin & Kern, *Homeland earth: A manifesto for the new millennium*, 1999
[91] Schilthuis, *Biodynamic agriculture*, 1994; Steiner, *Agriculture: Spiritual foundations for the renewal of agriculture*, 1993
[92] Elgin, *Awakening earth: Exploring the evolution of human consciousness*, 1993
[93] Kealey, *Revisioning environmental ethics*, 1990
[94] Birch & Cobb, *The liberation of life: From the cell to the community*, 1990; Griffin, "Whitehead's deeply ecological worldview," 1994; Palmer, *Environmental ethics and process thinking*, 1998
[95] Boff, *Ecology and liberation: A new paradigm*, 1995; Boff et al., *Ecology and poverty: Cry of the earth, cry of the poor*, 1997
[96] Fox, *Towards a transpersonal ecology: Developing new foundations for environmentalism*, 1990
[97] Hargens, "Integral development: Taking the middle path towards gross national happiness," 2002
[98] Tissot, "Integral marine ecology: Community-based fishery management in Hawai'i," 2005
[99] Zimmerman, *Contesting earth's future: Radical ecology and postmodernity*, 1994; "Possible political problems of earth-based religiousity," 2000; "Ken Wilber's critique of ecological spirituality," 2001; "Integral ecology: A perspectival developmental, and coordinating approach to environmental problems," 2005
[100] Riddell, "Evolving approaches to conservation: Integral ecology and British Columbia's Great Bear rainforest," 2005
[101] Eddy, "An Integral approach to sustainable development," 2001; "A comparative review of ecosystem modeling and 'Integral Theory': A theoretical basis for modeling human-environment interaction in geography," 2002a; "Some first principles of an 'Integral Geography': An approach to modeling human-environment problem spaces," 2002b; "Integral geography: Space, place and perspective," 2005
[102] Owens, "An integral approach to sustainable consumption and waste reduction," 2005
[103] Kreisberg, *The twelve niches of plant medicine*, 2003
[104] Snorf, *Integral eco-design*, 2003
[105] Hochachka, "Integral community development in San Juan del Gozo, El Salvador: Including communities, ecosystems and 'interiority' in the developmental process," 2001; "Integrating interiority in community development," 2005
[106] Prpich, "A critical analysis of the national standard of Canada for organic agriculture," 2005

[107] Wight, "Integrating It and We with the I of the beholder: From planning the city's region to making our collective home-place," 1999; "Rethinking regions as holons in holarchies: Toward a more integral city-region planning practice," 2000; "Place, placemaking and planning: Part 1; Wilber's integral theory," 2002; "Placemaking as applied integral ecology: Evolving an ecologically-wise planning ethic," 2005
[108] Emerson, *On nature: The best of Ralph Waldo Emerson; Essays, poems, addresses*, 1969
[109] Bortoft, *The wholeness of nature: Goethe's way towards a science of conscious participation in nature*, 1996
[110] Armstrong (Ed.), *Francis and Clare: The complete works*, 1988
[111] Wilber, *Sex, ecology, spirituality: The spirit of evolution*, 1995
[112] Macy, "The ecological self: Postmodern ground for right action," 1990
[113] Bache, "The eco-crisis and species ego-death: Speculations on the future," 2000
[114] Cunningham, *Wicca: A guide for the solitary practitioner*, 1990; diZerga, Frew & Wilber, "Neopaganism and the mystical tradition," 1999; Farrar & Farrar, *The witches' way*, 1984; Frew, "Harran: Last refuge of classical Paganism," 1999
[115] Jones, *The social face of Buddhism: An approach to political and social activism*, 1989
[116] Fukuoka, *The one-straw revolution: An introduction to natural farming*, 1978; *The natural way of farming: The theory and practice of green philosophy*, 1985
[117] McClellan, "Nondual ecology: In praise of wildness and in search of harmony with everything that moves," 1993
[118] Fox, *Towards a transpersonal ecology: Developing new foundations for environmentalism*, 1990
[119] Neihardt, *Black Elk speaks*, 1900; Holler, (Ed.), *The Black Elk reader*, 2000
[120] Fox, *The coming of the cosmic Christ: The healing of mother earth and the birth of a global renaissance*, 1988; *Creation spirituality: Liberating gifts for the peoples of the earth*, 1991
[121] Metzner, *Green psychology: Transforming our relationship to the earth*, 1999
[122] Metzner, Callaway, Grob & McKenna, *Ayahuasca: Human consciousness and the spirits of nature*, 1999
[123] Halifax, *Shamanic voices: A survey of visionary narratives*, 1979; Walsh, *The spirit of shamanism*, 1992
[124] Dugan, *The vision quest of the Plains Indians: Its spiritual significance*, 1985; Jastrap, *Sacred manhood, sacred earth: A vision quest into the wilderness of a man's heart*, 1995
[125] Wright, *Perelandra garden workbook: A complete guide to gardening with nature intelligences*, 1993; Telesco & Telesco, *Dancing with devas: Connecting with the spirits and elements of nature*, 1999
[126] For additional explanation on the "technical" use of these terms consult Wilber, "Introduction to excerpts from volume 2 of the Kosmos Trilogy," 2003a.
[127] Kahn, *The human relationship with nature: Development and culture*, 1999; Kahn & Kellert, *Children and nature: Psychological, sociocultural, and evolutionary investigations*, 2002
[128] Bekoff & Jamieson (Eds.), *Readings in animal cognition*, 1996
[129] Kegan, *The evolving self: Problem and process in human development*, 1982; *In over our heads: The mental demands of modern life*, 1994
[130] Latonick-Flores, "Broadening environmental awareness: Another perspective on the new environmental paradigm/dominant social paradigm theory," forthcoming; Greenwald, *Environmental attitudes: A structural developmental model*, 1991; Swearingen, "Moral development and environmental ethics," 1989
[131] Abram, *The spell of the* sensuous, 1996
[132] Fisher, *Radical ecopsychology*, 2002
[133] Brown & Toadvine, *Eco-phenomenology: Back to the earth itself*, 2003
[134] Huges, *Sensory exotica: A world beyond human experience*, 2001; Ford, *The secret language of life: How animals and plants feel and communicate*, 2000
[135] Elgin, *Awakening earth: Exploring the evolution of human consciousness*, 1993
[136] Balee (Ed.), *Advances in historical ecology*, 1998; Crumley (Ed.), *New directions in anthropology and environment; intersections*, 2001
[137] Merchant, *The death of nature: Women, ecology, and the scientific revolution*, 1980; Sturgeon, *Ecofeminist natures: Race, gender, feminist theory, and political action*, 1997
[138] Casey, *Getting back into place: Toward a renewed understanding of the place-world*, 1993; *The fate of place: A philosophical history*, 1998
[139] Steeves, *Animal others: On ethics, ontology, and animal life*, 1999
[140] Nash, *Wilderness and the American mind*, 1982
[141] Keller, "Ecological hermeneutics," 1998

[142] Van Buren, "Critical environmental hermeneutics," 1995
[143] Mugerauer, *Language and the emergence of the environment: Dwelling, place & environment*, 1985; Basso, *Wisdom sits in places: Landscape and language among the Western Apache*, 1996
[144] Tucker & Grim (Eds.), *Religions of the world and ecology*, 1994-2002
[145] Laird, *Biodiversity and traditional knowledge,* 2002; Ellen, Parkes & Bicker (Eds.), *Indigenous environmental knowledge and its transformations: Critical anthropological perspectives*, 2000
[146] Zimmerman et al., "What can continental philosophy contribute to environmentalism," 2004
[147] Bortoft, *The wholeness of nature: Goethe's way towards a science of conscious participation in nature*, 1996; Seamon & Zajonc, *Goethe's way of science: A phenomenology of nature*, 1998
[148] Maturana & Varela, *Autopoiesis and cognition: The realization of the living*, 1991. The term *biophenomenology* is a bit misleading since Valrea acknowledged that his method does not allow one to know the inside of the interior of biological phenomena but rather the inside of the exterior.
[149] Petitot, Varela, Pachoud & Roy (Eds.), *Naturalizing phenomenology: Issues in contemporary phenomenology and cognitive science*, 2000
[150] Dodson, *Ecology*, 1998
[151] Von Bartalanffy, *General systems theory*, 1968
[152] Oyama, *Evolution's eye: A systems view of the biology-culture divide*, 2000
[153] Luhmann, *Ecological communication*, 1989; *Social systems*, 1995
[154] Geyer & Zouwen, *Sociocybernetics: Complexity, autopoiesis, and observation of social systems*, 2001
[155] This platform is inspired by the intention of Arne Naess and George Sessions' eight-plank Deep Ecology Platform.
[156] This section was written by the author Sean Esbjörn-Hargens and his colleague Michael Zimmerman.
[157] Wilber, *Sex, ecology, spirituality: The spirit of evolution*, 1995; *A brief history of everything*, 1996; *Integral psychology: Consciousness, spirit, psychology, therapy*, 1999d; *A theory of everything: An integral vision for business, politics, science, and spirituality*, 2000.
[158] Wilber, *Sex, ecology, spirituality: The spirit of evolution*, 1995, p. 2.
[159] Wilber, *Sex, ecology, spirituality: The spirit of evolution*, 1995
[160] Whitehead, *Process and reality: An essay in cosmology*, 1979
[161] Wilber, *Sex, ecology, spirituality: The spirit of evolution*, 1995, p. 529
[162] Wilber draws on Hegel's concept *aufheben* for this concept.
[163] Koestler, *The ghost in the machine*, 1976
[164] Kosmos is a Greek word that Wilber uses to refer to matter: the physiosphere, life: biosphere, mind: noosphere, and Spirit: theosphere. Consult Wilber, *Sex, ecology, spirituality: The spirit of evolution,* 1995.
[165] However, Wilber, *Sex, ecology, spirituality: The spirit of evolution*, 1995, suggests that there is another meaning, besides emergence, of Whitehead's "the many become one and is increased by one," and that is the idea of prehensive unification. For example, this is where the single living cell embraces its entire physical universe. Wilber characterizes this as "all antecedent actual occasions participate to some degree in a holarchy of embrace," pp. 92-93.
[166] Consult Wilber, *Sex, ecology, spirituality: The spirit of evolution*, 1995, for a fuller discussion of the twenty tenets.
[167] Consult Wilber, *Sex, ecology, spirituality: The spirit of evolution*, 1995, for an analysis of the problems encountered by confusing whole/part relationships.
[168] For additional discussion of holons consult, "On critics, Integral Institute, my recent writing, and other matters of little consequence: A Shambhala Interview with Ken Wilber," at http://wilber.shambhala.com.
[169] Consult Wilber, *Sex, ecology, spirituality: The spirit of evolution*, 1995, for a detailed analysis of the problems that assail current approaches to the environment.
[170] Allen & Starr, *Hierarchy: Perspectives for ecological complexity*, 1982; O'Neill, De Angelis, Waide & Allen, *A hierarchical concept of ecosystems,* 1986; Allen & Hoekstra, *Toward a unified ecology*, 1992
[171] Consult Wilber, *Sex, ecology, spirituality: The spirit of evolution*, 1995; *Integral psychology: Consciousness, spirit, psychology, therapy*, 1999; and *A theory of everything: An integral vision for business, politics, science, and spirituality*, 2000. Also add "all bodies (e.g., gross, subtle, and causal)." This is particularly important in the context of the varieties of nature mysticism, which include unification with a gross realm Gaia, a subtle realm Gaia, and a causal realm Gaia.

[172] Note that the examples given for each quadrant are not correlated between themselves, they only represent single examples for each quadrant.
[173] For some of Graves' original research consult Graves, *Clare W. Graves: Levels of human existence*, 2002. For an overview of Spiral Dynamics, consult Beck & Cowan, *Spiral dynamics: Mastering leadership, values and change*, 1996
[174] For example consult Beck & Linscott, *The crucible: Forging South Africa's future*, 1991
[175] Consult Wilber, *Integral psychology: Consciousness, spirit, psychology, therapy*, 1999, and *A theory of everything: An integral vision for business, politics, science, and spirituality*, 2000, for more contextualization of Spiral Dynamics within an Integral approach.
[176] Consult Wilber, *Integral psychology: Consciousness, spirit, psychology, therapy*, 1999, for a discussion of the important difference between enduring and transitonal structures and the self-system.
[177] Wilber, "Introduction to excerpts from volume 2 of the Kosmos Trilogy," 2003a; "Excerpt A: An integral age at the leading edge," 2003b; "Excerpt B: The many ways we touch; Three principles helpful for any integrative approach," 2003c; "Excerpt C: The ways we are in this together; Intersubjectivity and interobjectivity in the holonic Kosmos," 2003d; "Excerpt D: The look of a feeling; The importance of post/structuralism," 2003e; "Excerpt G: Toward a comprehensive theory of subtle energies," 2003f
[178] Wilber, "The integral vision of healing," 2004, pp. 7-8
[179] For further exploration of the nuances of this position consult Wilber, "Introduction to excerpts from volume 2 of the Kosmos Trilogy," 2003a; "Excerpt A: An integral age at the leading edge," 2003b; "Excerpt B: The many ways we touch; Three principles helpful for any integrative approach," 2003c; "Excerpt C: The ways we are in this together; Intersubjectivity and interobjectivity in the holonic Kosmos," 2003d; "Excerpt D: The look of a feeling; The importance of post/structuralism," 2003e; "Excerpt G: Toward a comprehensive theory of subtle energies," 2003f.

REFERENCES

Abby, E. (2000). *The monkey wrench gang*. New York: Perennial.

Abrams, D. (1996). *The spell of the sensuous*. New York: Pantheon.

Adams, C. J. (Ed.). (1994). *Ecofeminism and the sacred*. New York: Continuum.

Adamson, J.; Evans, M. M. & Stein, R. (Eds.). (2002). *The environmental justice reader: Politics, poetics, & pedagogy*. Tucson: University of Arizona Press.

Albanese, C. (1991). *Nature religion in America: From the Alonquin Indians to the new age*. Philadelphia: University of Chicago Press.

Albanese, C. (2002). *Reconsidering nature religion*. Harrisburg, PA: Trinity Press International.

Allen, T. F. H. & Hoekstra, T. (1992). *Toward a unified ecology*. New York: Columbia University Press.

Allen, T. F. H. & Starr, T. B. (1982). *Hierarchy: Perspectives for ecological complexity*. Chicago: University of Chicago Press.

Alexander, C. (1977). *A pattern language: Towns, buildings, construction*. Oxford, England: Oxford University Press.

Anderson, S. (2001). *Managing our wildlife resources* (4th ed.). Upper Saddle River, NJ: Prentice Hall.

Araya, D. (2003). Integral Religion: Uniting Eros and Logos. Retrieved December 14, 2005, from http://www.integralworld.net/araya.html

Arnold, R. (1997). *Ecoterror: The violent agenda to save nature; The world of the Unabomber*. Bellevue, WA: Free Enterprise Press.

Armstrong, R & Brady, I. (Eds.). (1988). *Francis and Clare: The complete works*. New York: Paulist Press.

Astin, J. A & Astin, A. W. (2002). An integral approach to medicine. *Alternative Therapies, 8*, 70-75.

Astin, A. W. (2000). Conceptualizing service-learning research using Ken Wilber's integral framework. *Michigan Journal of Community Service Learning*, *Fall,* 98-104.

Bache, C. (2000). The eco-crisis and species ego-death: Speculations on the future. *Journal of Transpersonal Psychology*, *32 (1),* 89-94.

Baden-Powell, R. (1992). *Scouting for boys: A handbook for instruction in good citizenship*. Astoria, IL: Stevens Publishing Company.

Balee, W. (Ed.). (1998). *Advances in historical ecology*. New York: Columbia University Press.

Basso, K. (1996). *Wisdom sits in places: Landscape and language among the Western Apache.* Albuquerque: University of New Mexico Press.

Bateson, Gregory (2000). *Steps to an ecology of mind.* Chicago: The University of Chicago Press. (Original work published 1972)

Bauwens, M. (2003). Three challenges for global religion in the 21st century. Retrieved December 15, 2005, from http://www.integralworld.net/bauwens.html

Beck, Don E. & Cowan, Christopher C. (1996). *Spiral dynamics: Mastering values, leadership, and change.* Oxford, England: Blackwell.

Beck, Don E. & Linscott, Graham (1991). *The crucible: Forging South Africa's future*. Denton, TX: New Paradigm Press.

Bechtel, R. B. & Churchman, A. (2002). *Handbook of environmental psychology.* New York: John Wiley & Sons.

Bekoff, M. & Jamieson, D. (Eds.). (1996). *Readings in animal cognition*. Cambridge, MA: MIT Press.

Bell, P.; Greene, T; Fisher, J. & Baum, A. (1996). *Environmental psychology*. Orlando, FL: Harcourt Brace.

Bell, S. (Ed.). (2000). *Seven summits: The quest to reach the highest point on every continent*. Boston: Bulfinch Press.

Berkes, F. & Folke, C. (Eds.). (2002). *Linking social and ecological systems*. Cambridge, England: Cambridge University Press.

Berman, M. (1981). *The reenchantment of the world*. Ithaca, NY: Cornell University Press.

Berry, T. (1982). *Teilhard in the Ecological Age, Teilhard Studies, Num. 7*. Chambersburg, PA: Anima Books.

Berry, T. (1988). *The dream of the earth*. San Francisco: Sierra Club Books.

Bertalanffy, Ludwig von (1968). *General systems theory*. New York: Braziller.

Bingham, R. (1999). *The NEW passport to survival: 12 steps to self-sufficient living*. Edmond, OK: Natural Meals Publishing.

Birch, C. & Cobb, J., Jr. (1990). *The liberation of life: From the cell to the community*. Denton, TX: Environmental Ethics Books.

Boff, L. (1995). *Ecology and liberation: A new paradigm*. Maryknoll, NY: Orbis Books.

Boff, L. & Elizondo, V. (1995). Ecology and poverty: Cry of the earth, cry of the poor. *A special issue of Concilium Journal.* London: SCM Press.

Boff, L. (1997). *Ecology and poverty: Cry of the earth, cry of the poor* (P. Berryman, Trans.). Maryknoll, NY: Orbis Books.

Bonde, L. O. (2001). Steps toward a meta-theory of music therapy?: An introduction to Ken Wilber's integral psychology and a discussion of its relevance for music therapy. *Nordic Journal of Music Therapy*, *10 (2),* 176-187.

Bookchin, M. (1990). *The philosophy of social ecology: Essays on dialectical naturalism*. Montreal, Canada: Black Rose Books.

Bortoft, H. (1996). *The wholeness of nature: Goethe's way towards a science of conscious participation in nature.* Hudson, NY: Lindisfarne Press.

Brodle, J. (1995) *Earth Dance: A year of pagan rituals*. Sommerset, England: Capall Bann Publishing.

Brown, Barrett C. (2003). What really matters? A youth's quest for keys to effecting global change. *Spirituality & Reality: New Perspectives on Global Issues, II (2)*, 10-12.

Brown, C. S. & Toadvine, T. (2003). *Eco-phenomenology: Back to the earth itself.* Albany: State University of New York Press.

Brown, J. & Real, L. (Eds.). (1991). *Foundations of ecology: Classic papers with commentaries*. Chicago: University of Chicago Press.

Brower, M. & Leon, W. (1999). *The consumer's guide to effective environmental choices: Practical advice from the Union of Concerned Scientists*. New York: Three Rivers Press.

Butcher, R. (2003). *American's national wildlife refuges: A complete guide*. Boulder, CO: Roberts Rinehart Publishers.

Capra, Fritjof (1996). *The web of life: A new scientific understanding of living systems*. New York: Anchor Books.

Carroll, P. (1969). *Puritanism and the wilderness: The intellectual significance of then New England frontier, 1629-1700.* New York: Columbia University Press.

Casey, E. (1993). *Getting back into place: Toward a renewed understanding of the place-world.* Bloomington: Indiana University Press.

Casey, E. (1998). *The fate of place: A philosophical history*. Berkeley: University of California Press.

Chapman, S. (2001). *What a hunter brings home: Pursuing the trophies that matter most*. Eugene, OR: Harvest House Publishers.

Cohen, M. J. (1993, Autumn). Integrated ecology: The process of counseling with nature. *The Humanistic Psychologist*, *21*, 277-295.

Cole, L. W. & Foster, S. (2000). *From the ground up: Environmental racism and the rise of the environmental justice movement*. New York: New York University Press.

Cook-Greuter, Susanne (1999). Postautonomous ego development: A study of its nature and measurement (Doctoral dissertation, Harvard University, 1999). *Dissertation Abstracts International, 60* (06), 3000.

Crumley, C. (Ed.). (2001). *New directions in anthropology and environment: Intersections*. New York: Rowan & Littlefield.

Cunningham, S. (1990). *Wicca: A guide for the solitary practitioner.* Saint Paul, MN: Llewellyn Publishers.

Czech, B. & Krausman, P. (2001). *The endangered species act: History, conservation biology, and public policy*. Baltimore: John Hopkins University Press.

Davis, S. (1997). *Kid Mystic*. Dharma Pop Records.

Deloria, P. (1998). *Playing Indian*. New Haven, CT: Yale University Press.

Des Jardins, J. R. (1993). *Environmental ethics: An introduction to environmental philosophy*. Belmont, CA: Wadsworth Publishing Company.

Diamond, I. & Orenstein, G. (Eds.). (1990). *Reweaving the world: The emergence of ecofeminism.* San Francisco: Sierra Club Books.

Diamond, S. (1981). *In search of the primitive.* New York: Transaction Books.

diZerega, G.; Frew, D. & Wilber, K. (1999). Neopaganism and the mystical tradition. Retrieved December 19, 2005, from http://www.integralworld.net/dizerega.html

Dodson, S. I; Allen, T. F. H.; Carpenter, S. R.; Ives, A. R.; Jeanne, R. L.; Kitchell, J. F.; Langston, N. E. & Turner, M. G. (1998). *Ecology*. Oxford, England: Oxford University Press.

Dodson, S. I.; Allen, T. F. H.; Carpenter, S. R.; Elliot, K.; Ives, A. R.; Jeanne, R. L.; Kitchell, J. F.; Langston, N. E. & Turner, M. G. (1999). *Readings in ecology*. Oxford, England: Oxford University Press.

Drengson, A. & Inoue. Y. (1995). *The deep ecology movement: An introductory anthology.* Berkley, CA: North Atlantic Books.

Dugan, K. M. (1985). *The vision quest of the Plains Indians: Its spiritual significance*. Lewiston, NY: Edwin Mellen Press.

Eddy, Brian (2001). *An integral approach to sustainable development.* Manuscript in preparation, Carleton University, Ottawa, Ontario, Canada.

Eddy, Brian (2002a). *A comparative review of ecosystem modeling and 'Integral Theory': A theoretical basis for modeling human-environment interaction in geography.* Unpublished manuscript, Carleton University, Ottawa, Ontario, Canada.

Eddy, Brian (2002b). *Some first principles of an 'Integral Geography': An approach to modeling human-environment problem spaces.* Unpublished manuscript, Carleton University, Ottawa, Ontario, Canada.

Eddy, Brian (2005). Integral geography: Space, place and perspective. *World Futures*, *61 (1-2)*, 151-163.

Elgin, Duane (1993). *Awakening earth: Exploring the evolution of human consciousness*. New York: William Morrow and Company, Inc.

Elgin, Duane (1997). Global consciousness change: Indicators of an emerging paradigm. A report submitted to the Fetzer Institute. San Anselmo, CA: Millennium Project

Ellen, R. F.; Parkes, P. & Bicker, A. (Eds.). (2000). *Indigenous environmental knowledge and its transformations: Critical anthropological perspectives*. New York: Routledge.

Emerson, Ralph Waldo (1969). *On nature: The best of Ralph Waldo Emerson: Essays, poems, addresses* (G. Haight, Ed.). Roslyn, NY: Walter J. Black.

Esbjörn-Hargens, Sean (2006). Integral ecology: An ecology of perspectives. *AQAL: Journal of Integral Theory and Practice, 1 (1),* 267-304.

Etling, K. (2001). *Hunting superbucks: How to find and hunt today's trophy mule and whitetail deer.* New York: Lyons Press.

Evernden, N. & Leslie, L. (1992). *The social creation of nature*. Baltimore: Johns Hopkins University Press.

Farrar, S. & Farrar, J. (1984). *The witches' way*. London: Robert Hale.

Fiandt, K.; Forman, J.; Erickson Megel, M.; Pakieser, R. A. & Burge, P. (2003). Integral nursing: An emerging framework for engaging the evolution of the profession. *Nursing Outlook, 51,* 130-137.

Fisher, A. (2002). *Radical ecopsychology*. Albany: State University of New York Press.

Fisher, R. M. (2003). *'Lighting up' the integral: A critical review of Ken Wilber's philosophy and theories related to education.* Unpublished manuscript.

Ford, B. (2000). *The secret language of life: How animals and plants feel and communicate.* New York: Fromm International.

Forman, D. (1993). *Ecodefense: A field guide to monkeywrenching*. Chico, CA: Abbzug Press.

Foster, S. (1992). *The book of the vision quest: Personal transformation in the wilderness*. New York: Simon & Schuster.

Fox, M. (1988). *The coming of the cosmic Christ: The healing of mother earth and the birth of a global renaissance.* San Francisco: Harper San Francisco.

Fox, M. (1991). *Creation spirituality: Liberating gifts for the peoples of the earth.* San Francisco: Harper San Francisco.

Fox, W. (1990). *Towards a transpersonal ecology: Developing new foundations for environmentalism.* Boston: Shambhala.

Frew, D. (1999, August). Harran: Last Refuge of Classical Paganism. *The Pomegranate: A New Journal of Neopagan Thought*.

Fukuoka, M. (1978). *The one-straw revolution: An introduction to natural farming.* Emmaus, PA: Rodale Press.

Fukuoka, M. (1985). *The natural way of farming: The theory and practice of green philosophy.* Tokyo: Japan Publications.

Fukuoka, M.; Fukuoka, M. & Metreud, F. M. (1987). *The road back to nature: Regaining the paradise lost*. Tokyo: Japan Publications.

Fussell, E. (1965). *Frontier: American literature and the American west*. Princeton, NJ: Princeton University Press.

Gebser, Jean (1985). *The ever-present origin* (N. Barstad & A. Mickunas, Trans.). Athens: Ohio University Press. (Original work published 1949)

Geyer, F. & Zouwen, J. V. D. (2001). *Sociocybernetics: Complexity, autopoiesis, and observation of social systems.* Westport, CT: Greenwood Press.

Gibbs, J. J.; Giever, D. & Pober, K. A. (2000). Criminology and the eye of the spirit: An introduction and application of the thoughts of Ken Wilber. *Journal of Contemporary Criminal Justice*, *16 (1),* 99-127.

Goldsmith, E. (1993). *The way: An ecological worldview*. Boston: Shambhala.

Golley, F. B. (1996). *A history of the ecosystem concept in ecology: More than the sum of the parts.* New Haven, CT: Yale University Press.

Goodin, R. E. (1992). *Green political theory*. Cambridge, MA: Polity Press.

Graham, F. & Buchheister, C. (1992). *The Audubon ark: A history of the National Audubon Society*. Austin: University of Texas Press.

Greenwald, J. (1993). Environmental attitudes: A structural developmental model (Doctoral dissertation, University of Massachusetts Amherst, 1993). *Dissertation Abstracts International, 53* (12), 6550.

Grey, Alex (1990). *Sacred mirrors: The visionary art of Alex Grey*. Rochester, NY: Inner Traditions.

Grey, Alex (1998). *The mission of art*. Boston: Shambhala.

Grey, Alex (2001). *Transfigurations*. Rochester, NY: Inner Traditions.

Graves, Clare W. (2002). *Clare W. Graves: Levels of human existence* (W. R. Lee, Ed.). Santa Barbara, CA: ECLET Publishing.

Griffin, D. R. (1994). Whitehead's deeply ecological worldview. In M.E. Tucker & J. Grim (Eds.), *Worldviews and ecology: Religion, philosophy, and the environment* (pp. 190-206). Maryknoll, NY. Orbis Books.

Griffin, S. (1978). *Woman and nature: The roaring inside her*. New York: Harper & Row.

Grosz, T. (1999). *Wildlife wars: The life and times of a fish and game warden*. Boulder, CO: Johnson Books.

Guattari, F. (2000). *The three ecologies* (I. Pindar & P. Sutton, Trans.). London: The Alhlone Press. (Original work published 1989)

Gunderson, L. H. & Holling, C. S. (2001). *Panarchy: Understanding transformations in systems of humans and nature*. Washington, DC: Island Press.

Habermas, J. (1984-1985). *The theory of communicative action* (Vols. 1-2; T. McCarthy, Trans.). Boston: Beacon Press.

Halifax, J. (1979). *Shamanic voices: A survey of visionary narratives*. New York: E. P. Dutton.

Hargens, Sean (2001). Intersubjective musings: A response to Christian de Quincey's 'The Promise of Integralism.' *Journal of Consciousness Studies, 8 (12)*, 35-78.

Hargens, Sean (2002, Summer). Integral development: Taking the middle path towards gross national happiness. *Journal of Bhutan Studies, 6*, 24-87.

Harguindey, S. (2003). *Spirit and politics for the XXI century*. Unpublished manuscript.

Harris, P. (2001). *Frequently asked questions about Christian meditation: The path of Contemplative Prayer.* Ottawa, Ontario, Canada: Novalis.

Hawken, Paul; Lovins, Amory & Lovins, L. Hunter (1999). *Natural capitalism*. New York: Brown and Company.

Hays, S. (1999). *Conservation and the gospel of efficiency: The progressive conservation movement, 1890-1920.* Pittsburgh: University of Pittsburgh Press.

Hochachka, Gail (2001). *Integral community development in San Juan del Gozo, El Salvador: Including communities, ecosystems and 'interiority' in the developmental process.* Unpublished master's thesis, University of Victoria, Victoria, British Columbia, Canada.

Hochachka, Gail (2005). Integrating interiority in community development. *World Futures, 61 (1-2)*, 110-126.

Hodges, T. (1999). *Sworn to protect*. Oroville, CA: T & C Books.

Hofstadter, R. (1992). *Social Darwinism in American thought*. Boston: Beacon Press.

Holler, C. (Ed.). (2000). *The Black Elk reader*. Syracuse, NY: Syracuse University Press.

Horon, D. (2000). *The pure state of nature: Sacred cows, destructive myths and the environment.* Crows Nest, New South Wales, Australia: Allen & Unwin.

Hughes, H. (2001). *Sensory exotica: A world beyond human experience*. Cambridge, MA: Bradford Books.

Huhndorf, S. M. (2001). *Going native: Indians in the American cultural imagination*. Ithaca, NY: Cornell University Press.

Hutter, B. (Ed.). (1999). *A reader in environmental law*. New York: Oxford University Press.

Jastrab, J. (1995). *Sacred manhood, sacred earth: A vision quest into the wilderness of a man's heart.* New York: Harper Perennial Library.

Jones, K. (1989). *The social face of Buddhism: An approach to political and social activism.* Boston: Wisdom.

Johnston, David & Leonard, Adam (submitted). Case study: Green building market transformation through integral communication. *AQAL: Journal of Integral Theory and Practice.*

Kahn, P. H., Jr. (1999). *The human relationship with nature: Development and culture.* Cambridge, MA: MIT Press.

Kahn, P. H., Jr & Kellert, S. R. (Eds.). (2002). *Children and nature: Psychological, sociocultural, and evolutionary investigations.* Cambridge, MA: MIT Press.

Kealey, D. (1990). *Revisioning environmental ethics*. Albany: State University of New York Press.

Kegan, Robert (1982). *The evolving self: Problem and process in human development*. Cambridge, MA: Harvard University Press.

Kegan, Robert (1994). *In over our heads: The mental demands of modern life*. Cambridge, MA: Harvard University Press.

Keller, D. (1998, August). Ecological hermeneutics. Paper presented at the Philosophy and the Environment Conference, Boston, MA. Retrieved December 15, 2005, from http://www.bu.Edu/wcp/Papers/Envi/EnviKell.htm

Keller, E. F. (1995). *Reflections on gender and science*. New Haven, CT: Yale University Press.

Kimbrell, A. (2002). *The fatal harvest reader*. Washington, DC: Island Press.

Koestler, A. (1976). *The ghost in the machine*. New York: Random House.

Kreisberg, J. (2003). *The twelve niches of plant medicine*. Unpublished manuscript.

Kubasek, N. & Silverman, G. (2001). *Environmental law* (4th ed.). Upper Saddle River, NJ: Prentice Hall.

Kull, K. (Ed.). (2001). Jakob von Uexkull: A paradigm for biology and semiotics. *Semiotica, 134* (1/4).

Laird, S. A. (Ed.). (2002). *Biodiversity and traditional knowledge*. London: Earthscan Publications.

Landy, M. K.; Roberts, M. J. & Thomas, S. R. (1994). *The Environmental Protection Agency: Asking the wrong questions: From Nixon to Clinton*. New York: Oxford University Press.

Latonick-Flores, J. (2003). *Awakening to the ecotragedy: An examination of Kegan's 'In over Our Heads' thesis and the transformation of ecological consciousness. A Research Proposal.* Unpublished manuscript, Saybrook Graduate School, San Francisco.

Latonick-Flores, J. (2004). *Broadening environmental awareness: Another perspective on the new environmental paradigm/dominant social paradigm theory.* Doctoral dissertation in preparation, Saybrook Graduate School, San Francisco.

Laszlo, Ervin (1996). *The systems view of the world: A holistic vision for our time*. Cresskill, NJ: Hampton Press.

Lauzon, A. (1998). Adult education and the human journey: An evolutionary perspective. *International Journal of Lifelong Education*, *17 (2),* 131-145.

Levi-Strauss, C. (1962). *Totemism today* (R. Needham, Trans.). Boston: Beacon Press.

Leopold, Aldo (1949). *A Sand County almanac and sketches here and there*. New York: Oxford University Press.

Light, A. & Katz, E. (Eds.). (1996). *Environmental pragmatism*. New York: Routledge.

Lipp, D. (2003). *The elements of ritual: Air, fire, water & earth in the Wiccan circle*. Saint Paul, MN: Llewellyn Publications.

Love, S. (1972). *Ecotage*. New York: Pocketbooks.

Lovelock, James (2000). *Gaia: A new look at life on earth* (3rd ed.). New York: Oxford University Press. (Original work published 1979)

Low, A. & Tremayne, S. (Eds.). (2002). *Sacred custodians of the earth? Women, spirituality and the environment.* Oxford, England: Berghahn Books.

Luhmann, Niklas (1989). *Ecological communication* (J. Bednarz, Trans.). Chicago: University of Chicago Press.

Luhmann, Niklas (1995). *Social systems* (J. Bednarz & D. Baecker, Trans.). Palo Alto, CA: Stanford University Press.

Macy, J. (1990). The ecological self: Postmodern ground for right action. In D. Griffin (Ed.), *Sacred interconnections: Postmodern spirituality, political economy, and art*. New York: State University of New York Press.

Main, J. (1985). *The way of unknowing*. London: Darton, Longman & Todd.

Manes, C. (1990). *Green rage*. Boston: Little Brown & Company.

Marion, J. (2000). *Putting on the mind of Christ: The inner work of Christian spirituality*. Charlottesville, VA: Hampton Roads Publishing.

Martin, C. (1981). The American Indian as miscast ecologist. In R. Schutz & J. D. Hughes (Eds.), *Ecological Consciousness* (ch. 7). Washington, DC: University Press of America.

Maturana, Humberto R. & Varela, Francisco J. (1991). *Autopoiesis and cognition: The realization of the living*. Boston: Reidel Publishing.

McClellan, J. (1993). Nondual ecology: In praise of wildness and in search of harmony with everything that moves. Retrieved December 15, 2005, from http://spot.colorado.Edu/~mcclelr/NondualEcologyLight.htm

McKibben, Bill (1999). *The end of nature*. New York: Anchor.

McPherson, J. & McPherson, G. (1993). *Primitive wilderness living & survival skills: Naked into the wilderness.* New York: John McPherson.

Mechling, J. (2001). *On my honor: Boy Scouts and the making of American youth*. Chicago: University of Chicago Press.

Merleau-Ponty, M. (2000). *The visible and the invisible* (C. Lefort, Trans.). Evanston, IL: Northwestern University Press. (Original work published 1968)

Merchant, C. (1980). *The death of nature: Women, ecology, and the scientific revolution.* New York: Harper and Row.

Merchant, C. (2003). *Reinventing Eden: The fate of nature in western culture*. New York: Routledge.

Metzner, R. (1999). *Green psychology: Transforming our relationship to the earth*. Rochester, VT: Inner Traditions.

Metzner, R.; Callaway, J. C.; Grob, C. S. & McKenna, D. J. (1999). *Ayahuasca: Human consciousness and the spirits of nature.* New York: Thunder's Mouth Press.

Mies, M. & Shiva, V. (1993). *Ecofeminism.* London: Zed Books.

Mikulas, W. (2001). *The integrative helper: Convergence of Eastern and Western traditions*. Belmont, CA: Wadsworth Publishers.

Morin, E. & Kern, A. B. (1999). *Homeland earth: A manifesto for the new millennium*. Cresskill, NJ: Hampton Press.

Moura, Ann (1996). *Green witchcraft: Folk magic, fairy lore & herb craft*. Saint Paul, MN: Llewellyn Publishers.

Moyer, B. (2001). *Doing democracy: The MAP model for organizing social movements*. Gabriola Island, Canada: New Society Publishers.

Mugerauer, R. (1985). Language and the emergence of the environment. In D. Seamon & R. Mugerauer (Eds.), *Dwelling, place & environment: Towards a phenomenology of person and world* (pp. 51-70). New York: Columbia University Press.

Nash, R. (1982, 1967). *Wilderness and the American mind*. New Haven, CT: Yale University Press.

Neihardt, J. (1988, 1932). *Black Elk speaks*. Lincoln: University of Nebraska Press.

Noss, R.; O'Connell, M. A. & Murphy, D. D. (1997). *The science of conservation planning: Habitat conservation under the Endangered Species Act.* Washington, DC: Island Press.

O' Brien, J. F. (1988). Teilhard's view of nature and some implications for environmental ethics. *Environmental Ethics, 10,* 329-346.

O' Neill, R. V.; De Angelis, D.; Waide, J. & Allen, T. F. H. (1986). *A hierarchical concept of ecosystems*. Princeton, NJ: Princeton University Press.

Oelschlaeger, M. (1991). *The idea of wilderness: From prehistory to the age of ecology*. New Haven, CT: Yale University Press.

Olsen, M. (2003). *Women who risk: Profiles of women in extreme sports*. Long Island City, NY: Hatherleigh Press.

Owens, Cameron (2005). An integral approach to sustainable consumption and waste reduction. *World Futures*, *61 (1-2),* 96-109.

Oyama, S. (2000). *Evolution's eye: A systems view of the biology-culture divide*. Durham, NC: Duke University Press.

Palmer, C. (1998). *Environmental ethics and process thinking*. Oxford: Clarendon Press.

Paulson, D. (1999a). *Topical antimicrobial testing and evaluation*. New York: Marcel Dekker.

Paulson, D. (1999b, August). Successfully marketing skin moisturizing products. *Soap/Cosmetics/Chemical Specialties*.

Paulson, D. (1999c). The near-death experience: An integration of cultural, spiritual, and physical perspectives. *Journal of Near Death Studies*, *18 (I)*, 13-45.

Paulson, D. (2002). *Competitive business, caring business: An integral business perspective for the 21st century.* New York: Paraview Press.

Petitot, J.; Varela, F. J.; Pachoud, B. & Roy, J-M (2000). *Naturalizing phenomenology: Issues in contemporary phenomenology and cognitive science*. Palo Alto, CA: Stanford University Press.

Pimm, S. L. (2001). *The world according to Pimm: A scientist audits the earth*. Blacklick, OH: McGraw-Hill Trade.

Plumwood, V. (1993). *Feminism and the mastery of nature.* New York: Routledge.

Prpich, Wade (2005). A critical analysis of the national standard of Canada for organic agriculture, *World Futures*, *61 (1-2),* 138-150.

Register, R. (1987). *Ecocity Berkeley: Building cities for a healthy future*. Berkeley, CA: North Atlantic Press.

Regan, T. (1983). *The case for animal rights*. Berkeley: University of California Press.

Rentschler, M. (2006a). Introducing integral art. *AQAL: Journal of Integral Theory and Practice, 1 (1)*, 41-49.

Rentschler, M. (2006b). Understanding integral art. *AQAL: Journal of Integral Theory and Practice, 1 (1)*, 50-70.

Ricklefs, R. & Miller, G. (1999). *Ecology* (4th ed.). New York: W. H. Freeman.

Riddell, Darcy (2005). Evolving approaches to conservation: Integral ecology and British Columbia's Great Bear rainforest. *World Futures, 61 (1-2)*, 63-78.

Rollin, B. (1989). *The unheeded cry: Animal consciousness, animal pain, and science*. Oxford, England: Oxford University Press.

Rolston, H., III (1986). *Philosophy gone wild: Essays in environmental ethics*. Buffalo, NY: Prometheus.

Rolston, H., III (1988). *Environmental ethics: Duties to and values in the natural world.* Philadelphia: Temple University Press.

Roof, Nancy (2003). Integral approaches that transform us and the world. *Spirituality & Reality: New Perspectives on Global Issues, II (2),* 7-10.

Roszak, M.; Kanner, A. D. & Gomes, M. E. (1995). *Ecopsychology: Restoring the earth, healing the mind.* San Francisco: Sierra Club Books.

Sale, K. (1985). *Dwellers in the land: The bioregional vision*. San Francisco: Sierra Club Books.

Scarce, R. (1990). *Eco warriors: Understanding the radical environmental movement.* Chicago: Noble Press.

Schilthuis, W. (1994). *Biodynamic agriculture*. Hudson, NY: Anthroposophic Press.

Schlitz, M.; Amorok, T. & Micozzi, M. (Eds.). (2004). *Consciousness and healing: Integral approaches to mind-body medicine*. St Louis, MO: C.V. Mosby.

Schwartz, S. & Schwartz, J. (2001). *The scouting way*. San Clemente, CA: Scouting Way Press.

Schweitzer, Albert (1946). *Civilization and ethics*. London: A & C Black.

Seamon, D. & Zajonc, A. (Eds.). (1998). *Goethe's way of science: A phenomenology of nature*. Albany: State University of New York Press.

Sessions, G. (Ed.). (1995). *Deep ecology for the 21st century*. Boston: Shambhala.

Sewall, L. (1999). *Sight and sensibility: The ecopsychology of perception*. New York: Tarcher & Putnam.

Shepard, P. (1982). *Nature and madness.* San Francisco: Sierra Club Books.

Simmons, I. G. (1993). *Interpreting nature: Cultural constructions of the environment*. New York: Routledge.

Sjoo, M. (1991). *The Great cosmic mother: Rediscovering the religion of the earth* (2nd ed.). San Francisco: Harper.

Slaughter, Richard A. (1997). Ken Wilber's path to transformational futures. *New Renaissance, 7*, 23-25.

Slaughter, Richard A. (1998). Transcending flatland: Implications of Ken Wilber's meta narrative for futures studies. *Futures, 30*, 519-533.

Slaughter, Richard A. (1999a). A new framework for environmental scanning. *Foresight: The Journal of Future Studies, Strategic Thinking and Policy*, *1 (5),* 387-397.

Slaughter, Richard A. (1999b). An outline of critical futures studies. In R. A. Slaughter, *Futures for the Third Millennium—Enabling the Forward View* (pp. 203-230). Sydney, Australia: Prospect.

Slaughter, Richard A. (2001). Knowledge creation, futures methodologies and the integral agenda. *Foresight*: *The Journal of Future Studies, Strategic Thinking and Policy, 3 (5)*, 407-418.

Slaughter, Richard A. (2002). Beyond the mundane: Reconciling breadth and depth in futures work. *Futures, 34,* 493-507.

Snorf, Kevin (2003). *Integral eco-design*. Manuscript in preparation.

Soares, E. & Powers, M. (1999). *Extreme sea kayaking: A survival guide*. Camden, ME: International Marine/Ragged Mountain Press.

Spence, M. D. (2000). *Dispossessing the wilderness: Indian removal and the making of the national parks.* New York: Oxford University Press.

Spretnak, C. (1999). *The resurgence of the real*. New York: Routledge.

Starhawk (1995). *The spiral dance: A rebirth of the ancient religion of the great goddess*. San Francisco: Harper San Francisco.

Stein, M. (2000). *When technology fails: A manual for self-reliance and planetary survival.* Santa Fe, NM: Clear Light Publishing.

Steeves, H. P. (1999). *Animal others: On ethics, ontology, and animal life*. Albany: State University of New York Press.

Steiner, R. (1993). *Agriculture: Spiritual foundations for the renewal of agriculture*. Kimberton, PA: Bio-Dynamic Farming and Gardening Association.

Sturgeon, N. (1997). *Ecofeminist natures: Race, gender, feminist theory, and political action*. London: Routledge.

Swearingen, T. (1990). Moral development and environmental ethics (Doctoral dissertation, University of Washington, 1990). *Dissertation Abstracts International, 50* (12), 5905.

Swimme, Brian & Berry, Thomas (1992). *The universe story—From the primordial flaring forth to the ecozoic era: A celebration of the unfolding of the cosmos.* San Francisco: HaperCollins.

Taylor, B. (1997). Earth spirituality or cultural genocide? Radical environmentalism's appropriation of Native American spirituality. *Religion, 27*, 183-215.

Taylor, P. (1986). *Respect for nature*. Princeton, NJ: Princeton University Press.

Telesco, T. & Telesco, P. (1999). *Dancing with devas: Connecting with the spirits and elements of nature*. Laceyville, PA: Todd Hall.

Tennyson, J. (1977). *A singleness of purpose: The story of ducks unlimited*. Chicago: Ducks Unlimited.

Tissot, Brian (2005). Integral marine ecology: Community-based fishery management in Hawai'i. *World Futures, 61 (1-2)*, 79-95.

Tobias, M. (1995). *A vision of nature: Traces of the original world*. Kent, OH: Kent State University Press.

Torbert, William (1991). *The power of balance: Transforming self, society, and scientific inquiry*. Newbury Park, CA: Sage.

Torbert, William (2004). *Action inquiry: The secret of timely and transforming leadership*. San Francisco: Berrett-Koehler Publishers.

Tucker, M. E. & Grim, J. (Eds.). (1994-2002). *Religions of the world and ecology* (Vols. 1-10). Cambridge, MA: Harvard University Press.

Van Buren, J. (1995). Critical environmental hermeneutics. *Environmental Ethics*, *17,* 259-275.

Vitek, W. & Jackson, W. (Eds.). (1996). *Rooted in the land*. New Haven, CT: Yale University Press.

Voros, J. (2001). Reframing environmental scanning: An integral approach. *Foresight: The Journal of Future Studies, Strategic Thinking and Policy, 3 (6),* 533-52.

Walsh, Roger (1992). *The spirit of shamanism*. Los Angeles: Tarcher.

Walsh, Roger (2002). Terrorism and other global terrors: An integral analysis. *Journal of Transpersonal Psychology, 34 (1),* 13-22.

Warren, K. (Ed.). (1997). *Ecofeminism: Women, culture, nature*. Bloomington: Indiana University Press.

Warren, K. (2000). *Ecofeminist philosophy*. New York: Rowan & Littlefield Publishers.

Watson, D. (1996). *Beyond Bookchin: Preface for a future social ecology*. Detroit, MI: Black & Red.

Welter, V. M. (2002). *Biopolis: Patrick Geddes and the city of life*. Cambridge, MA: MIT Press.

Weil, P. (2002). *The art of living in peace: Guide to education for a culture of peace*. Paris: UNESCO Publishing.

Whitehead, Alfred North (1979). *Process and reality: An essay in cosmology* (D. Griffin & D. Sherburne, Eds.). New York: Free Press.

Whiteside, K. H. (2002). *Divided natures: French contributions to political ecology*. Cambridge, MA: MIT Press.

Wight, Ian (1999, June). *Integrating It and We with the I of the beholder: From planning the city's region to making our collective home-place.* Paper presented to the Canadian Institute of Planners National Conference, Montreal, Quebec, Canada.

Wight, Ian (2000, November). *Rethinking regions as holons in holarchies: Toward a more integral city-region planning practice.* Paper presented to the Association of Collegiate Schools of Planning, Atlanta, GA.

Wight, Ian (2002, November). *Place, placemaking and planning: Part 1; Wilber's integral theory.* Paper presented to the Association of Collegiate Schools of Planning, Baltimore.

Wight, Ian (2005). Placemaking as applied integral ecology: Evolving an ecologically-wise planning ethic. *World Futures*, *61 (1-2),* 127-137.

Wilber, Ken (1995). *Sex, ecology, spirituality: The spirit of evolution*. Boston: Shambhala.

Wilber, Ken (1996). *A brief history of everything*. Boston: Shambhala.

Wilber, Ken (1999). *Integral psychology: Consciousness, spirit, psychology, therapy*. Boston: Shambhala.

Wilber, Ken (1999-2000). *The collected works of Ken Wilber* (Vols. 1-8). Boston: Shambhala.

Wilber, Ken (2000). *A theory of everything: An integral vision for business, politics, science, and spirituality*. Boston: Shambhala.

Wilber, Ken (2002). On critics, Integral Institute, my recent writing, and other matters of little consequence: A Shambhala interview with Ken Wilber. Retrieved December 15, 2005, from http://wilber.shambhala.com/html/interviews/interview1220.cfm/

Wilber, Ken (2003a). Introduction to excerpts from volume 2 of the Kosmos Trilogy. Retrieved September 21, 2003, from http://wilber.shambhala.com/html/books/kosmos/excerptA/intro.cfm

Wilber, Ken (2003b). Excerpt A: An integral age at the leading edge. Retrieved September 21, 2003, from http://wilber.shambhala.com/html/books/kosmos/excerptA/intro.cfm

Wilber, Ken (2003c). Excerpt B: The many ways we touch; Three principles for an integral approach. Retrieved September 21, 2003, from http://wilber.shambhala.com/html/books/kosmos/excerptB/intro.cfm

Wilber, Ken (2003d). Excerpt C: The ways we are in this together; Intersubjectivity and interobjectivity. Retrieved September 21, 2003, from http://wilber.shambhala.com/html/books/kosmos/excerptC/intro.cfm

Wilber, Ken (2003e). Excerpt D: The look of a feeling; The importance of post/structuralism. Retrieved September 21, 2003, from http://wilber.shambhala.com/html/books/kosmos/excerptD/excerptD.pdf

Wilber, Ken (2003f). Excerpt G: Toward a comprehensive theory of subtle energies. Retrieved September 21, 2003, from http://wilber.shambhala.com/html/books/kosmos/excerptG/part1.cfm/

Wilber, Ken (2004). The integral vision of healing. In M. Schlitz, T. Amorok & M. Micozzi (Eds.), *Consciousness and healing: Integral approaches to mind-body medicine* (Foreword). St Louis, MO: C. V. Mosby.

Wilpert, Gregory (2001, July-August). Integral politics: A spiritual third way. *Tikkun*, 44-49.

Winter, D. (1995). *Ecological psychology: Healing the split between planet and self.* San Francisco: HarperCollins.

Worster, D. (1994). *Nature's economy: A history of ecological ideas*. Cambridge, England: Cambridge University Press.

Wright, M. S. (1993). *Perelandra garden workbook: A complete guide to gardening with nature intelligences.* Warrentown, VA: Perelandra.

Zakin, S. (1995). *Coyotes and town dogs: Earth First! and the environmental movement*. New York: Penguin.

Zimmerman, Michael (1994). *Contesting earth's future: Radical ecology and postmodernity*. Berkeley: University of California Press.

Zimmerman, Michael (1998). *Ken Wilber's critique of ecological spirituality.* Unpublished manuscript.

Zimmerman, Michael (2000). Possible political problems of earth-based religiousity. In E. Katz, A. Light & D. Rothenberg (Eds.), *Beneath the surface: Critical essays in the philosophy of deep ecology* (pp. 169-194). Cambridge MA: MIT Press.

Zimmerman, Michael (2004). What can continental philosophy contribute to environmentalism. In B. Foltz & R. Frodeman (Eds.), *Rethinking nature: Essays in environmental philosophy* (Ch. 12). Bloomington: Indiana University Press.

Zimmerman, Michael (2001). Ken Wilber's critique of ecological spirituality. In D. Barnhill & R. Gottlieb (Eds.), *Deep ecology and world religions* (pp. 243-269). Albany: State University of New York Press.

Zimmerman, Michael (2005). Integral ecology: A perspectival developmental and coordinating approach to environmental problems. *World Futures*, *61 (1-2),* 50-62.

Zimmerman, M.; Callicot, J. B.; Clark, J.; Warren, K. J. & Klaver, I. J. (2004). *Environmental philosophy: From animal rights to radical ecology* (4th ed.). Upper Saddle River, NJ: Prentice Hall.

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