

Saving Creation: Faith Shaping Environmental Policy

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Religious faith can make a unique contribution to environmental policy. Typically, legislators might expect to formulate a science-based environmental policy. But scientific reasoning is able to offer only partial and value-free guidance. Science, by its very nature, cannot offer enough guidance for the challenges of contemporary environmental policy. Religious faith and religious communities can, and already have begun to, offer precisely what science lacks: a value-laden, unified understanding of creation, humankind, and our obligations as stewards of the Earth. I make this case here by assessing the religious traditions in the United States and Europe, particularly Western monotheism, especially Christianity.

Science, unaided, does not teach us what we most need to know about nature: *how to value it*. Ecologists may be able to tell us what our options are, what will work and what will not, and what is the minimum baseline health of the landscapes we inhabit.¹ But there is nothing in ecology *per se* that gives ecologists any authority or skills at making more inclusive policy decisions: how much land to keep wild, how much to reserve for agriculture, how much to keep as working landscapes, and how much to develop. Biologists describe a wonderland Earth—even they find it wonderful—but how much biodiversity ought we to save, especially if this limits human economic development? Science does not enable us to choose between diverse options, all of which are scientifically possible. Faith urges both enjoying the abundant gifts of the Earth and saving this creation. An icon of such caring is the new *Green Bible*, with environmentally relevant scriptures printed in green, similar to earlier Bibles with the words of Jesus in red.²

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† *Editor's Note*: The following article offers a synthesis, for the first time directed at a legal audience, of Professor Rolston's views on the interrelation of religion and environmental policy, one element of his decades-long project to illuminate the interconnections between the worlds of science and religion. For further background, see generally Rolston's *Caring for Nature: What Science and Economics Can't Teach Us but Religion Can*, 15 ENVTL. VALUES 307 (2006); *Environmental Ethics and Religion/Science*, in THE OXFORD HANDBOOK OF RELIGION AND SCIENCE 908 (Philip Clayton ed., 2006); *Science and Religion in the Face of the Environmental Crisis*, in THE OXFORD HANDBOOK OF RELIGION AND ECOLOGY 376 (Roger S. Gottlieb ed., 2006).

¹ *Editor's Note*: "Landscape," as used throughout the article, is a term of art drawn from the field of landscape ecology, which combines biology, geophysics, the social sciences, and other disciplines to explore the ways in which spatial organization interacts with ecological processes. Organisms reside *on* a landscape, as on a map of their spatial distribution, rather than *in* a landscape, as in the ordinary sense of the word.

² THE GREEN BIBLE (Michael G. Maudlin et al. eds., 2008).

In the National Environmental Policy Act, the U.S. Congress declared that the ecological sciences can help the nation "to create and maintain conditions under which man and nature can exist in productive harmony."³ My central claim is that, although the ecological sciences are necessary, they are not sufficient. More help is needed—and already forthcoming—from faith-based convictions about the stewardship of creation; that is, about caring, respect, and reverence for life, which can preserve the sacred gift of a good Earth. How *nature* works is the province of the physical and biological sciences. For that information, Congress must consult such sciences. How *human nature* can be reformed to work as it ought to is the province of ethics and religion. When Congress seeks to reform human conduct in a nation where a majority of citizens profess belief in God, there should be consideration of religious convictions about living on the American landscape.

One needs human ecology, humane ecology. Religious ethicists can, with considerable plausibility, make the claim that neither sustainable development, nor conservation, nor a sustainable biosphere, nor any other harmony between humans and nature can be gained until persons learn to use the Earth both justly and charitably. Those twin concepts are not found either in wild nature or in any science that studies nature or human nature. They must be grounded in some ethical authority. This authority has traditionally been religious and remains so grounded for many Americans.

In the analysis to follow, I expand on the arguments above. (I) I argue that science, by its very nature, is unable to offer a satisfactory response to the challenges of contemporary environmental policy. (II) I suggest that religious faith traditions can offer, in the realm of environmental concern, what scientific reasoning cannot: value-laden worldviews that shape lifestyles. (III) I illustrate the potential of religious faith traditions by documenting the many ways that religious individuals and communities are already acting to reform environmental policies. (IV) Looking ahead, I explore further roles that religious thought and community can play in the environmental arena, and how the scientific community might respond to this religious cooperation.

I. SCIENCE LIMITED, TRANSCENDED IN ENVIRONMENTAL POLICY

Scientists and ethicists alike have traditionally divided their disciplines into the realm of the *is* and the realm of the *ought*, following David Hume and G.E. Moore. By this division, no study of nature can tell humans what ought to happen, on pain of committing the naturalistic fallacy, which moves without warrant from what *is* the case to what *ought to be*. Climatologists who claim to know what we *ought to do*, or theologians who claim to base ethics on ecology, may be violating the long-established taboo against mix-

³ National Environmental Policy Act of 1969, Pub. L. No. 91-190, § 101 (a), 83 Stat. 852 (codified at 42 U.S.C. § 4331a (2006)).

ing facts and values. Environmental science is one thing. Environmental advocacy is another. One has to cross a gap to connect facts discovered in Earth sciences with values that humans place on nature when setting environmental policy.

A. *Environmental Facts and Values*

The gap between fact and value in environmental policy has narrowed, many will claim. Environmental science informs the way we ought to value nature in subtle ways. Consider some of the language ecologists use to describe ecosystems: the *order*, *stability*, and *diversity* in biotic *communities*, their *interdependence*, their *health* or *integrity*, perhaps even their *resilience* or *efficiency*. Ecologists describe the *adapted fit* that organisms have in their niches, the roles they play. They describe an ecosystem as *flourishing*, as *self-organizing*. Strictly interpreted, these are just descriptive terms, and yet often they are already quasi-evaluative. Order, stability, diversity, interdependence, fitness, health, and integrity are values, too. This is perhaps not always so, but is true often enough that by the time the descriptions of ecosystems are set forth, some values are already assumed.

Although ecology reframes the ways that we think about nature, it leaves deeper questions unanswered. Yes, the natural world is ordered and diverse, a wild land may be flourishing. But ought we to develop none, or part, or all of it? Economists may say that a variety of flourishing, ordered, diverse, and stable human communities could occupy the same landscape. It could be urban, suburban, or rural. But if ecologists or economists say that saving the spotted owls is less or more important than jobs for loggers, then they have moved beyond science to an ethical claim, to deeper value questions that science itself cannot answer. After four centuries of Enlightenment and Western science, and despite their impressive successes, the value questions in today's world are as urgent, sharp, and painful as ever.

Perhaps we ought not to focus so much on ecological *science* as on *human* ecology. Human ecology analyzes how humans reside on their landscapes and through their cultural institutions while interacting with environing natural systems. Here, we will need insights into human nature as much as into nature. These insights may come from the social sciences, from the humanities, and also from the religious domain. True, one cannot know the right way for humans to behave if one is ignorant of how human behaviors result in this or that causal outcome in the natural systems about which one is concerned. Will cutting half of the old growth leave enough forest for the owls? That is an ecological question. But if humans by nature are prone to exploit—the rich gaining power over the poor—then does a society need, by taxation, to reset landholding patterns more equitably? Or does society need to set aside more recreational forests for camping, hunting, and fishing? Or should society find other ways to ensure fair access to resources? Those are ethical questions whose answers may be shaped by religious convictions.

Bridging the *is/ought* gap to produce environmental policy requires understanding how human nature functions and dysfunctions, and how to reform or redeem "fallen" human nature. Humans fall into evil in the first three chapters of Genesis, a parable of the aboriginal origins of morality and of the perennial situation into which humans are now born, confronted with possibilities of good and evil, and lapsing into moral failure. On the one hand is whatever biology discovers about nature as natural history; on the other, the claims of Christian and Jewish faiths about God's redemption of human nature. Humans must repair their broken wills, discipline innate self-interest, and curb corrupt social forces. What it means to be blessed, what it means to be wicked: these are theological questions. Ecology and the other biological sciences will be little more help here than astrophysics or soil chemistry. Economists can help policymakers predict what levels of taxation will have what results on landholding patterns. But what levels of taxation and what landholding patterns are fair? Will voters register only their self-interest? Or, can they persuasively be urged to vote for the common good?

B. *Environmental Health*

One goal shared by all is health. Ecology, the systems science of animals and plants in their behavioral adaptations to and interactions with the environments they inhabit, is, when applied, strikingly like medical science. Both are therapeutic. Ecologists are responsible for environmental health, which is really another form of public health. Health is not just inside the skin; it is outside, too. The criteria for health seem to be scientific. But religion, too, is concerned about health; witness the historic and continuing connections between medicine and religious compassion for the sick. Religion affirms that it is hard to have an abundant life, physical health, or a healthy economy in a sick environment.

Ecological health is the state in which the genetic potentials of an ecosystem's member species are being realized through the flourishing of organisms in their niches. It has been said that "[a]n ecological system is healthy and free from 'distress syndrome' if it is stable and sustainable—that is, if it is active and maintains its organization and autonomy over time and is resilient to stress."⁴ But ought humans always preserve unchanged the ecosystem that was originally there? Or, can there be culturally-introduced replacements—such as more desirable kinds of timber trees planted in the forests—provided that such replacements will thereafter function with minimal management intervention? Is that not good stewardship? How much naturalness is or ought to be present on a landscape? The *is* part of that question is for an ecologist to answer. The *ought* part of the question will

⁴ Benjamin D. Haskell, Bryan G. Norton & Robert Costanza, *Introduction: What Is Ecosystem Health and Why Should We Worry About It?*, in *ECOSYSTEM HEALTH: NEW GOALS FOR ENVIRONMENTAL MANAGEMENT* 3, 9 (Robert Costanza, et al. eds., 1992).

need an ethicist. The crossover point from *is* to *ought* may turn on environmental health. Ecologists can tell us when the ecosystems we inhabit are in fact healthy; ethicists can tell us that such health ought to continue.

But healthy ecosystems and healthy persons, though related, are ultimately different concerns. A person prefers natural bodily health, and we go to physicians to preserve that health. By contrast, we do not want entirely natural ecosystems and nothing more. If there is to be any culture at all, especially a modern culture, we must transform wild nature into rebuilt environments. We labor every day to make something better out of wild nature, not just to fix something that is sick. A flourishing culture requires revamping much of wild nature. However, if our revamping goes too far, then needed ecosystem services can collapse. We have to identify an environmental health found in our natural life-support systems and ask what cultural developments will retain enough land health to sustain a good life. That may not just be a question of an environment with clean air, water, and soil. The question will arise of humans living in harmony with nature.

Religious convictions at this point will insist on a more comprehensive vision of the good life, one that couples land health with human health, an abundant life that seeks the larger well-being envisioned by faith. This will include not only physical but also mental and spiritual well-being. As the "Code of Environmental Practice," prepared in 1989 for the G7 nations under the leadership of R.J. Berry, says:

A high quality of life is a legitimate aspiration for all, but we must distinguish quality of life from standard of living. Health is best defined positively as wholeness of all aspects of life, and not negatively as an absence of disease; health is the strength to be human, with an environment to rejoice in and respond to rather than avoid.⁵

Environmental health transforms into quality of life on the landscapes we inhabit.

C. *Environmental Management and Dominion Over Earth*

Scientists turning to environmental policy often advocate ecosystem management. This promises to combine what ecosystems are, factually, with what we humans wish to do in employing them in our cultural developments. The notion of management appeals alike to scientists, who see the need for understanding ecosystems objectively and in the context of applied technologies; to landscape architects and environmental engineers, who see nature as a redesigned home; and to developers, who like the idea of management as opposed to passive preservation. To politicians and environmental policymakers, management has the appearance of balance. It seems

⁵ R.J. Berry et al., *A Code of Environmental Practice*, in ENVIRONMENTAL DILEMMAS: ETHICS AND DECISIONS app. A, at 253, 255 (R.J. Berry ed., 1993).

possible to manage for indefinite sustainability on a system-wide level, both sustaining the ecosystems and their outputs for human benefit. Judeo-Christians instantly note that the secular word "manage" is a stand-in for the earlier theological word "steward," and its connotation of biblical "dominion" as caring for the garden Earth in Genesis.

Ecosystem management has been criticized as an umbrella idea under which different managers can include almost anything they wish, since what one is to manage ecosystems *for* is left unspecified. They might manage for maximum sustainable yield, for equal opportunity in the next generation, for maximum biodiversity, or for quick profit. Hands-on planetary managers will reply that it is futile to try to maintain pristine natural areas. Nature, at least in the untouched wilderness sense, is at an end. We shall increasingly have managed nature, or none at all—global warming proves that. There are no unmanaged systems, just varieties and degrees of management. Maybe so, but humans rebuild and manage the natural environment across a spectrum of options.

There are dangers. William Clark writes that "[w]e have entered an era characterized by syndromes of global change As we attempt to move from merely causing these syndromes to managing them consciously, two central questions must be addressed: What kind of planet do we want? What kind of planet can we get?"⁶ Those questions suggest a managerial model in which humans choose what they want to get out of the planet, and then the planetary managers, assisted by their scientists and economists, figure out how to get it. Theologians in this conversation will insist that a prior question is being overlooked: What kind of planet do we have? Maybe we have already been given a good Earth. Maybe we should be good stewards of the Earth we have.

Critics of Western monotheism may reply that science is not alone in contributing to over-management dangers. Religion has been equally the problem, seeing nature both as a gift and also as the object of human dominion. Famously, historian Lynn White laid much of the blame for the ecological crisis on Christianity in an attack published in *Science*.⁷ God's command in Genesis 1:28 for humans to "have dominion over" nature flowered in medieval Europe, licensed the exploitation of nature, and produced science and technology that have resulted in an ecological crisis. Equally, of course, White was attacking science for buying into a secular form of the dominion hypothesis. But the original authorization, so he claimed, was religious. After the fall and the disruption of the garden Earth, not only humankind but nature is corrupted. Nature needs to be redeemed by human labor.

Theologians have replied that dominion requires stewardship and care.⁸ Adam is commanded in Genesis 2:15 to till the garden and keep it. There

⁶ William C. Clark, *Managing Planet Earth*, SCI. AM., Sept. 1989, at 47-48.

⁷ Lynn White, Jr., *The Historical Roots of Our Ecological Crisis*, 155 SCIENCE 1203 (1967).

⁸ See generally RICHARD L. FERN, *NATURE, GOD AND HUMANITY: ENVISIONING AN ETHICS OF NATURE* (2002); JAMES A. NASH, *LOVING NATURE: ECOLOGICAL INTEGRITY AND CHRIS-*

are more positive senses of dominion. The biblical Hebrew word is more like the Latin: *dominus*, master of a household. Humans are Earth-gardeners: they tend and complete the creation. Adapting biblical metaphors of rulers for an environmental ethic, humans on Earth are and ought to be prophets, priests, and kings—roles unavailable to nonhumans. Humans should speak for God in natural history, should revere the sacred on Earth, and should rule creation in freedom and in love. Ample biblical passages celebrate the goodness of nature and urge its respect.⁹

In the biblical vision, God bade the Earth to produce its swarms of creatures and found this to be good, even before God turned to make humans. Humans will no doubt have to manage the planet so as to meet their own needs, but there is more to be said. Humans are the only species who can see an ecosystem for what it objectively is, a community of interconnected species, each with a niche and a role to play, and integrated into a community of life. That is what is meant by the Genesis notion of dominion and the keeping of a garden Earth.

The root of "manage" is the Latin *manus*, meaning "hand." Humans will handle the place. No one wishes to oppose intelligent management, but ought humans to place themselves at the center, claiming management of the whole in their human self-interest? This can even mean that *Homo sapiens* is the professional manager of an otherwise valueless world. Is our only relationship to nature one of engineering it for the better? Perhaps what is as much to be managed is the Earth-eating, managerial mentality that has caused the environmental crisis. On the planetary scale it is better to build our cultures in intelligent harmony with the way the world is already built, rather than to take control and rebuild this promising planet by ourselves and for ourselves. Managing the planet for our benefit is not the best paradigm. It is a half-truth which, when taken for the whole, becomes dangerous and self-defeating. "Hands" (the root of "manage," again) are also for holding in loving care. What kind of planet ought we humans to wish to have? One we resourcefully manage for our benefits? Or one we hold in loving care? Management questions, like landscape health questions, must cross the gap from *is* to *ought*.

D. Sustainable Development Versus Sustainable Biosphere

Since the 1992 United Nations Conference on Environment and Development (UNCED), the paradigm concept for the dominion over and management of ecosystems has been *sustainable development*. Sustainable

TIAN RESPONSIBILITY (1991); MICHAEL S. NORTHCOTT, THE ENVIRONMENT AND CHRISTIAN ETHICS (1996); Robin Attfield, *Social History, Religion, and Technology: An Interdisciplinary Investigation into Lynn White, Jr.'s "Roots"*, 31 ENVTL. ETHICS 31, 48-50 (2009).

⁹For biblical support of the notion of environmental stewardship, see generally ENVIRONMENTAL STEWARDSHIP: CRITICAL PERSPECTIVES (R.J. Berry ed., 2006); Calvin B. DeWitt, Praising Rembrandt but Despising His Paintings, Kuyper Lecture at the Fuller Theological Seminary (Oct. 30, 1996), in CARING FOR CREATION: RESPONSIBLE STEWARDSHIP OF GOD'S HANDIWORK 13 (James W. Skillen & Luis E. Lugo eds., 1998).

development is development that "meets the needs of the present without compromising the ability of future generations to meet their own needs."¹⁰ Over 150 nations have endorsed sustainable development,¹¹ which helps policymakers to view the entire set of environmental issues—food, health, water, soils, forests, energy, population, equity for future generations, developing nations, biodiversity reserves, wild lands—as multiple dimensions of human societies increasingly intertwined with local and global nature.

But whereas the UNCED focus was on sustainable development, ecologists have insisted that the ultimate goal of environmental policy should be a sustainable biosphere. The Ecological Society of America, for example, has made this goal a priority in its research, and has stated that "achieving a sustainable biosphere is the single most important challenge facing humankind today."¹² The fundamental unit of ongoing and future human survival is the envelope of life and life process that surrounds us on Earth. The economy must be worked out within this more comprehensive life support system of clean air, water, stable soils, healthy residential landscapes, forests, mountains, rivers, rural lands, parks, wild lands, wildlife, and renewable resources. Any sustainable human development must come within those more fundamental parameters. It must be *ecologically* sustainable. Development concerns need to focus on natural support systems as much as they do people's needs because development is now entwined with, and constrained by, the environment.¹³

In the conflict between economists promoting development and ecologists promoting stable ecosystems, those who are religious may first think they are with the economists (wanting to fulfill human needs) and later realize they are with the ecologists (human destiny requiring a healthy biosphere). The natural alliance between religious and ecological thought has already begun to bear fruit. An economist (and Christian), Herman Daly, has joined with a theologian, John Cobb, to produce a quite searching analysis, in both theory and practice, of steps toward a steady-state economy that is ecologically sustainable and works for the common good.¹⁴ Charles Birch, both an active Christian and the co-author of one of the most widely used texts in ecology,¹⁵ won the Templeton Prize in Religion for his coupling of ecological and religious concerns for nature.

As these examples suggest, Christians and Jews do not oppose Earth management by human stewards thought of as Earth trustees. The funda-

¹⁰ WORLD COMM'N ON ENV'T & DEV., OUR COMMON FUTURE 43 (1987), available at <http://www.un-documents.net/wced-ocf.htm>.

¹¹ Kyoto Protocol to the United Nations Framework Convention on Climate Change, Dec. 10, 1997, 37 I.L.M. 22.

¹² Paul G. Risser, et al., *Biological Research Priorities—A Sustainable Biosphere*, 41 *BIOSCIENCE* 625, 627 (1991).

¹³ See Holmes Rolston III, *Justifying Sustainable Development: A Continuing Ethical Search*, 4 *GLOBAL DIALOGUE* 103 (2002).

¹⁴ See HERMAN E. DALY & JOHN B. COBB, JR., *FOR THE COMMON GOOD* (2d ed. 1999).

¹⁵ See *LIBERATING LIFE: CONTEMPORARY APPROACHES TO ECOLOGICAL THEOLOGY* (Charles Birch et al. eds., 1990).

mental flaw in "sustainable development" is not to see the Earth as a resource but to see it as resource only. This leads to an attitude of exploitation and bad stewardship. Sustainable is an economic term, but also an environmental term. Humans, simultaneously with their development, are threatening more and more of the natural world, and this puts longstanding natural givens and values at stake. Further, in a more inclusive accounting of what we wish to sustain, nature provides numerous other values (aesthetic experiences, sense of the sublime, the sacred, biodiversity, sense of place and perspective), and these are getting left out. Religious convictions, rather than secular ones, better fund the systemic vision of monotheist cosmology with its good creation, this more inclusive sense of common good.

II. CARING FOR A SACRED EARTH: FAITH-BASED ENVIRONMENTAL POLICY

When faith mixes with politics, there is often an initial concern. Americans for centuries have separated church and state. The skeptical will warn that convictions about the supernatural have no place in realpolitik. They are too otherworldly, idealistic, uncompromising, invisible, and impractical. The twentieth century continued a trend toward privatizing religion, moving it out of the public sphere. The Equal Opportunity Act requires an employer to hire without regard to "race, color, religion, sex, or national origin."¹⁶ But whatever may be said for keeping politics and religion separate in other areas of life, this division becomes problematic in environmental policy. Unless landscapes, whether public or private, are protected in national, state, and local policy, they will be inadequately protected. In setting policy, citizens, including Christians who join with members of other faiths and secular conservationists, can help do in concert what they cannot do alone. Policy, when legislated and enforced, will need the support of American citizens, some eighty percent of whom claim to be religious.¹⁷ The faithful thus have a vital role to play in those collective choices that shape an environmental ethic for public policy.

Further, the faithful can be quite forceful in pressing their convictions in public life. Robert Putnam and David Campbell, political scientists at Harvard and Notre Dame, have found that religious Americans are three to four times more likely to be involved in their communities than the nonreligious.¹⁸ This involvement can include promoting their environmental concerns as well as their other social goals. In a large survey supervised by the

¹⁶ 42 U.S.C. § 2000e-2 (2006).

¹⁷ See PEW FORUM ON RELIGION & PUB. LIFE, U.S. RELIGIOUS LANDSCAPE SURVEY (2008), <http://religions.pewforum.org/?sid=st2008062300818#> (on file with the Harvard Law School Library).

¹⁸ Daniel Burke, *Congregants Make Better Citizens, Says New Study*, CHRISTIAN CENTURY, June 16, 2009, at 16. See generally ROBERT D. PUTNAM & DAVID CAMPBELL, AMERICAN GRACE: HOW RELIGION IS RESHAPING OUR CIVIC AND POLITICAL LIVES (forthcoming 2010).

Pew Forum on Religion and Public Life, nearly seventy percent of mainline clergy said that more environmental protection is needed, even if it raises prices or cuts jobs.¹⁹

When faith mixes with ecology, different concerns may arise. Science and conscience have a complex, elusive relationship, all the more so when conscience is shaped by faith. Book titles such as *Ecospirit*²⁰ or *Ecologies of Grace*,²¹ to take two recent titles, can seem almost deliberately provocative to some scientists. Believers and scientists, and scientist-believers, will welcome, if also be curious about, the answer to Roger Gottlieb's question introducing *The Oxford Handbook of Religion and Ecology*: "Religion and Ecology—What Is the Connection and Why Does It Matter?"²² The following sections begin to offer an answer. Faith-oriented environmental advocates have comprehensive worldviews, a strong sense of environmental justice in the face of the increasingly inequitable distribution of wealth, faith-based motivations for living with limits, and, in sum, a sense of caring for a sacred Earth.

A. *Comprehensive Religious Worldviews*

Religious persons typically have a comprehensive, inclusive framework within which to include both nature and themselves. They have a grand narrative. That term has been used disparagingly by continental philosophers,²³ but those with such vision can be serious about public policy, including environmental policy. They find something beyond the naturalizing of empirical science, holding that nature is not self-explanatory. Scientists search for natural explanations. But scientists are of mixed minds about whether, when some natural explanation is discovered, explanation is over. Believers point to deeper forces underlying the explanation, such as divine presence or Brahman or Emptiness (*sunyata*) or the Tao. Religions may detect supernature immanent in or transcendent of nature, though some religions prefer to think of their beliefs as a deeper account of Nature—perhaps enchanted, perhaps sacred.

¹⁹ROBERT P. JONES & DANIEL COX, PUB. RELIGION RES., CLERGY VOICES: FINDINGS FROM THE 2008 MAINLINE PROTESTANT CLERGY VOICES SURVEY 4 (2009), available at [http://www.publicreligion.org/objects/uploads/fck/file/Clergy%20Report/Political%20Report%20MPCVS%20NO%20EMBARGO\(1\).pdf](http://www.publicreligion.org/objects/uploads/fck/file/Clergy%20Report/Political%20Report%20MPCVS%20NO%20EMBARGO(1).pdf); see also PUB. RELIGION RES., POLL—CLIMATE CHANGE AND GLOBAL POVERTY (2009), <http://www.publicreligion.org/research/?id=198> (on file with the Harvard Law School Library) (demonstrating depth of support within the laity).

²⁰ECOSPIRIT: RELIGIONS AND PHILOSOPHIES FOR THE EARTH (Laurel Kearns & Catherine Keller eds., 2007).

²¹WILLIS JENKINS, ECOLOGIES OF GRACE: ENVIRONMENTAL ETHICS AND CHRISTIAN THEOLOGY (2008).

²²THE OXFORD HANDBOOK OF RELIGION AND ECOLOGY 3 (Roger S. Gottlieb ed., 2006).

²³See, e.g., JEAN-FRANCOIS LYOTARD, THE POSTMODERN CONDITION: A REPORT ON KNOWLEDGE 37-41 (Geoff Bennington & Brian Massumi trans., Univ. Minnesota Press 1984) (1979).

Effective moral systems should be welcome, wherever they come from, whatever their deeper metaphysics—whether religious or secular—because ethics must play a role in environmental policy. Utilitarians seek the greatest good for the greatest number, rights advocates seek to respect human rights, virtue ethicists seek to promote human virtues. But none of these ethical standpoints have the more comprehensive worldviews that characterize religious beliefs, such as accounts of creation, accounts of saving power for broken human lives, perhaps even ultimate accounts of benevolent motivations, or motivations for sharing. A religious account of Earth will be comprehensive, a worldview, a cosmology, a creation story, kinship with the creatures, the goodness of creation, a sense of life as a gift, of living virtuously and with restraint, of loving the Earth.²⁴

Ecologists, like the faithful, will tend to consider more inclusive systems, at least regionally, perhaps globally. Ecosystem already has system built into its idea. Both ecology and economics spring from the same Greek word, *oikos*, meaning home. Religious faith has appropriated the same root: "ecumenical" envisions the world as home. Those situated in the world faiths are likely to be cosmopolitan, in the literal sense, citizens of the world.

Earth has provisions, or, as economists prefer, resources. Theologians agree, as may philosophers, but go on to ask: what are we to make of the deeper sources by which there comes to be this world with these resources? Theologians bring a perspective of depth, in comparison with which they may criticize secular, modernist accounts as too patchwork and pragmatic. Can we intelligently (sustainably) exploit these earthly givens? Yes, but what are we to make of these provisions for life on Earth, found as fact of the matter by the scientists, judged valuable by the economists, needing care according to the ethicists, and found sacred by the theologians? For that, one needs a life-orienting worldview. Such provisions are, in the religious sense, providential. They are provisions in a "promised land," indeed provisions on a planet with promise.

If the question is *how* there comes to be this spectacular home planet, science gives answers at an empirical level: geophysical and evolutionary natural history. If the question is *why* this spectacular home planet, then that is a limit question that reaches toward religious answers: the meaning and significance of life on Earth. In their capacities for both science and religion, humans are remarkable on this remarkable planet. Does the Earth setup make such life probable, even inevitable? Biologists spread themselves across a spectrum, thinking that natural history is random, contingent, caused, unlikely, likely, probable, determined, or open. Those who want a comprehensive view insist that natural history suggests a creative genesis of life, whether evolutionary theory fully explains this genesis or not. Earth history is the story of how significant values are generated and endure

²⁴ See generally JOHN HART, SACRAMENTAL COMMONS: CHRISTIAN ECOLOGICAL ETHICS (2006); SPIRIT OF THE ENVIRONMENT: RELIGION, VALUE AND ENVIRONMENTAL CONCERN (David E. Cooper & Joy A. Palmer eds., 1998).

through a context of suffering, stress, perpetual perishing, and regeneration. Where there is creativity, the religiously-minded have cause to wonder whether there may lurk a Creator. Detecting a Creator in, with, and under creation is likely to produce a more comprehensive environmental policy than seeing Earth more materialistically, as an otherwise value-free resource that opportunistic humans are free to exploit, even if the managers exploit it sustainably and manage to maintain environmental health.

B. *Environmental Justice*

A second line of argument in favor of the value of faith-based environmental policy is that religions are especially effective in addressing questions of justice. The ancient Hebrews knew that they were given a blessing with a mandate:

You shall walk in all the way which the LORD your God has commanded you, that you may live, and that it may go well with you, and that you may live long in the land which you shall possess. . . . Hear therefore, O Israel, and be careful to do [these commandments] that it may go well with you, and that you may multiply greatly, as the LORD, the God of your fathers, has promised you, in a land flowing with milk and honey.²⁵

By this account, if there is to be a sustainable society, one in which the land flows with milk and honey, good husbandry of the land has to be coupled with divine law.²⁶ Should we conclude that it is not any science or even economics but ethics into which they have insight? Their deeper claim is that lands do not flow with milk and honey for all unless and until "justice rolls down like waters."²⁷

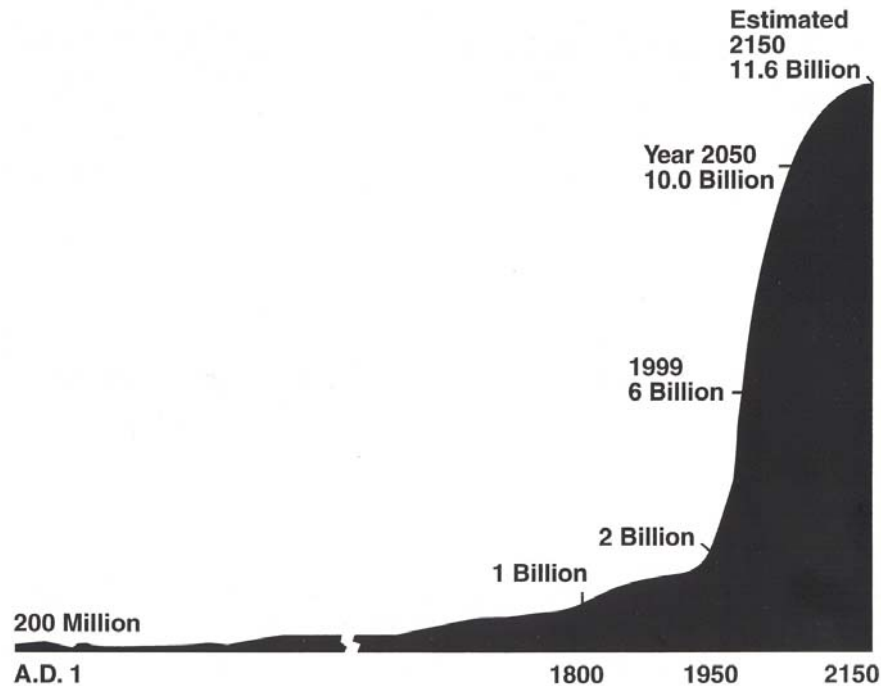
There is growing concern about environmental justice, a concern that has been predominantly faith-based. The way people treat each other is related to the way they treat nature. If humans have a tendency by nature to exploit, they will as soon exploit other people as nature. I will make this point by considering two graphs depicting the contemporary scene.

The first is that of escalating human population. This graph, taken alone, might seem to include dramatic flourishing of humans in the lands they inhabit. But this growth becomes more problematic when we realize that these human numbers, escalating around the world, are escalating much more in lesser-developed nations than in developed ones, and thus that the growth of population is at the same time the growth of poverty.

²⁵ *Deuteronomy* 5:33, 6:3.

²⁶ Holmes Rolston III, *The Bible and Ecology*, 50 *INTERPRETATION: J. BIBLE & THEOLOGY* 16, 21 (1996).

²⁷ *Amos* 5:24; see also Holmes Rolston III, *Caring for Nature: What Science and Economics Can't Teach Us but Religion Can*, 15 *ENVTL. VALUES* 307, 309 (2006).

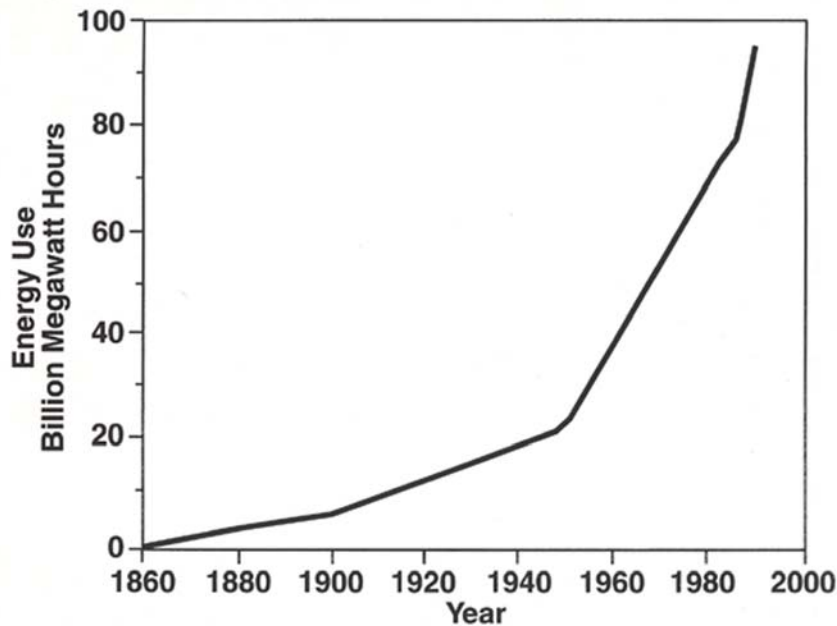
FIGURE 1: WORLD POPULATION GROWTH²⁸

Troubles loom with too much success in the growth of the human population. Consider the escalating energy use shown in the second graph. This can be taken as typical of escalating use of all kinds of natural resources.²⁹ It might seem that the escalating use of natural resources indicates human flourishing. But when we consider who in this escalating population with escalating consumption actually enjoys these resources, we see that the consumption is quite disproportionate. The most recent figures indicate that the economies containing the wealthiest one-fifth of the world's population consume almost half of the world's energy resources.³⁰

²⁸ Data from U.S. CENSUS BUREAU, STATISTICAL ABSTRACT OF THE UNITED STATES (U.S. Census Bureau, ed., 120th ed. 2000), available at http://www.census.gov/prod/www/abs/statab1995_2000.html.

²⁹ See WILL STEFFEN ET AL., GLOBAL CHANGE AND THE EARTH SYSTEM 132-33 (2004) (including similar graphs for over a dozen indicators of environmental quality).

³⁰ The combined population of OECD countries in 2006 was roughly 1.2 billion, out of a total world population of roughly 6.5 billion. See Organisation for Economic Co-operation and Development, ALPS Summary Tables: Population, <http://stats.oecd.org/index.aspx?queryid=254> (on file with the Harvard Law School Library); U.S. Census Bureau, Total Midyear Population for the World: 1950-2050, <http://www.census.gov/ipc/www/idb/worldpop.php> (on file with the Harvard Law School Library). According to the U.S. Energy Information Administration, "[i]n 2006, 51 percent of world energy consumption was in the OECD economies." ENERGY INFO. ADMIN., U.S. DEP'T OF ENERGY, REP. No. 0484, INTERNATIONAL ENERGY OUTLOOK 2009, at 7-8 (2009), available at [http://www.eia.doe.gov/oiarf/ieo/pdf/0484\(2009\).pdf](http://www.eia.doe.gov/oiarf/ieo/pdf/0484(2009).pdf).



Capitalism has become the dominant global economic system; coupled with science and technology, it makes possible the growth in consumerism. But on its present course, it is making the rich much richer in proportion to the trickle-down benefits received by the poor. According to the United Nations Development Programme: "Global inequalities in income increased in the 20th century by orders of magnitude out of proportion to anything experienced before. The distance between the incomes of the richest and poorest country was about 3 to 1 in 1820, 35 to 1 in 1950, 44 to 1 in 1973 and 72 to 1 in 1992."³² "For most of the world's poorest countries the past decade has continued a disheartening trend: not only have they failed to reduce poverty, but they are falling further behind rich countries."³³ The combined assets of the world's top three billionaires in 2008 exceeded the combined gross domestic products (GDP) of fifty-six of the world's least developed countries.³⁴ The richest one percent of the human population now

³¹ Data from Joel E. Cohen, *Population Growth and Earth's Human Carrying Capacity*, 269 *SCIENCE* 341, 341 (1995).

³² UNITED NATIONS DEV. PROGRAMME, HUMAN DEVELOPMENT REPORT 2000, at 6 (2000), available at http://hdr.undp.org/en/media/HDR_2000_EN.pdf.

³³ UNITED NATIONS DEV. PROGRAMME, HUMAN DEVELOPMENT REPORT 2005, at 36 (2005), available at http://hdr.undp.org/en/media/HDR05_complete.pdf.

³⁴ See Luisa Kroll, *The World's Billionaires*, *FORBES*, Mar. 5, 2008, http://www.forbes.com/2008/03/05/richest-people-billionaires-billionaires08-cx_lk_0305billie_land.html (on file with the Harvard Law School Library) (\$180 billion as combined wealth of world's three richest persons in 2008). The data on 2008 GDPs can be downloaded in spreadsheet form through International Monetary Fund, World Economic Outlook Database April 2008, <http://www.imf.org/external/pubs/ft/weo/2008/01/weodata/index.aspx> (on file with the Harvard Law School Library) (\$179 billion as combined GDP of poorest 56 countries in 2008).

own forty percent of global household wealth, while the poorest half own less than one percent.³⁵ Free trade moves capital and goods across national boundaries in international markets, but the labor also required for production is confined within nations, which means that capital can relocate production in seeking the cheapest labor.

Effective critiques of such capitalism are often religious. In a recent papal encyclical addressing the environment, the economy, and ethics, Pope Benedict XVI called for a radical rethinking of the global economy, criticizing the growing divide between rich and poor and urging the establishment of a true world political authority to oversee the economy and work for the common good. He criticized the current economic system, in which the pernicious effects of sin are evident, and urged financiers in particular to rediscover the genuinely ethical foundation of their activity.

Profit is useful if it serves as a means towards an end that provides a sense both of how to produce it and how to make good use of it. Once profit becomes the exclusive goal, if it is produced by improper means and without the common good as its ultimate end, it risks destroying wealth and creating poverty.³⁶

Religious voices here can speak the truth to power, both economic and political, as well as speaking to members of their own faiths.³⁷

The combination of escalating populations, escalating consumption, global capitalism, inequitable distribution, and struggles for power between and within nations results in environmental degradation that seriously threatens the welfare of the poor today and will increasingly threaten that of the rich tomorrow. The four critical items on our human agenda are population, development, peace, and environment. All are global; all are local; all are intertwined. Our human capacities to alter and reshape our planet are already more profound than our capacities to recognize the consequences of our activity and deal with it collectively and internationally.

C. Living With Limits

The next line of argument in favor of the value of faith-based environmental policy is that religious persons will be better able to address the issue of living with limits. For all of human history, we have been pushing back limits. Humans have more genius at this than any other species. Especially in the West, we have lived with a deep-seated belief that life will get better,

³⁵ JAMES B. DAVIES ET AL., *THE WORLD DISTRIBUTION OF HOUSEHOLD WEALTH* 7 (2008), http://www.wider.unu.edu/publications/working-papers/discussion-papers/2008/en_GB/dp2008-03/files/78918010772127840/default/dp2008-03.pdf (on file with the Harvard Law School Library).

³⁶ Pope Benedict XVI, Encyclical Letter *Caritas in Veritate* (July 7, 2009), available at http://www.Vatican.va/holy_father/benedict_xvi/encyclicals/documents/hf_ben-xvi_enc_2009_0629_caritas-in-veritate_en.html.

³⁷ See generally Roger S. Gottlieb, *A GREENER FAITH: RELIGIOUS ENVIRONMENTALISM AND OUR PLANET'S FUTURE* (2006).

and that one should hope for abundance and work toward obtaining it. Economists call such behavior "rational"—humans will maximize their capacity to exploit their resources. Moral persons will also maximize human satisfactions, at least those that support the good life, which must include not just food, clothing, and shelter, but also an abundance of more and more goods and services that people want. Such growth is always desirable.

In the West, we have built that growth into our concept of human rights: a right to self-development, to self-realization. Each person has a right to food, to a home, to education, to employment, to reproduction, to security. But such an egalitarian ethic, pushed beyond the realm of basic needs, scales up everybody's consumption until it is no longer sustainable. When everybody seeks his or her own good, there is escalating consumption. When everybody seeks everybody else's good, there is, again, escalating consumption. We are living beyond our means. A massive *Millennium Ecosystem Assessment*, sponsored by the United Nations, involving over 1,300 experts from almost a hundred nations, begins: "At the heart of this assessment is a stark warning. Human activity is putting such strain on the natural functions of Earth that the ability of the planet's ecosystems to sustain future generations can no longer be taken for granted."³⁸

The coming of science and its world-shaping technologies has increased the need for a moral framework to guide these new powers. Since the invention of motors and gears gave humans more power to transform the landscape, and since the coming of modern medicine, there have been unprecedented changes in world population, in agricultural production, in industrial production, in transportation and communication, in economic systems, and in military commitments—all literally altering the face of the planet. In one survey, researchers found most of the Earth's habitable land (seventy-three percent) to be human-dominated or partially disturbed.³⁹ The sea, too, is increasingly affected. The vast majority of the world's fisheries have been depleted.⁴⁰ Coastal development and pollution have caused sharp declines in ocean health.⁴¹ Increasingly less habitat remains for forms of life that cannot be accommodated in the nooks and crannies of a human-dominated world.

The shadow side of this escalation of development, consumption, and disproportionate distribution is a degraded environment in both developed and developing nations. Humans do not use the lands they have domesti-

³⁸ MILLENNIUM ECOSYSTEM ASSESSMENT, LIVING BEYOND OUR MEANS: NATURAL ASSETS AND HUMAN WELL-BEING 5 (2005), available at <http://www.millenniumassessment.org/documents/document.429.aspx.pdf>.

³⁹ See Lee Hannah et al., *A Preliminary Inventory of Human Disturbance of World Ecosystems*, 23 *AMBIO* 246, 248 (1994).

⁴⁰ See generally FOOD & AGRIC. ORG. OF THE UNITED NATIONS, THE STATE OF WORLD FISHERIES AND AQUACULTURE pt. I (2009), available at <ftp://ftp.fao.org/docrep/fao/01/i0250e/i0250e01.pdf>.

⁴¹ See generally U.S. Evtl. Prot. Agency, Coastal Zones and Sea Levels Rise, <http://www.epa.gov/climatechange/effects/coastal/index.html> (on file with the Harvard Law School Library).

cated effectively. A World Bank study found that thirty-five percent of the Earth's land has now become degraded.⁴² In developed nations there has been much progress cleaning up air and water but still, in the United States, almost half of the population lives in areas that do not meet national air quality standards.⁴³ Global warming threatens to disrupt not only fragile semi-arid areas but also long-established agricultural patterns.

A central difficulty is that many environmental problems result from the incremental aggregation of actions that are individually beneficial. The long lag time before environmental problems manifest themselves creates a problem at the intersection of nature and human nature. A person may be doing what would be, taken individually, a perfectly good thing, a thing which he or she would have a right to do if he or she were alone, but which, taken in collection with thousands of others doing the same thing, becomes harmful. A good thing escalates into a bad thing. This is Garrett Hardin's "tragedy of the commons."⁴⁴ Pursuit of individual advantage destroys the commons.

People are a good thing, people with energy at their service are fortunate, and people need goods and services for an abundant life. On this, scientists, economists, theologians, and policymakers agree. Scientists have celebrated how applied science has given us better things for better living; Christians and other believers have shown great concern for taking care of people—their physical as well as their spiritual needs. Policies informed by economics make such goods and services available to increasingly large numbers of persons.

But where does anybody learn to say: "Enough! Share!" In this environment of overpopulation, overconsumption, and maldistribution, if one asks what are the human institutions most likely to curb these maladaptive appetites with a sense of more inclusive and longer-range common good in a finite world, there is a clear answer: the world religions. That has been their mission for centuries: "Thou shalt not covet" is for Jews and Christians the last of the Ten Commandments. For Christians, it is last and pivotal because it proscribes the inordinate desires that drive the deadly sins.⁴⁵ One central idea in Buddhist ethics is that "thirsting" (the insatiable desire for more), drives the world of suffering. Its control and elimination is a central Buddhist commitment. Jesus' Beatitudes, with their celebration of spiritual above worldly goods, expose the limits of material consumption.

⁴² Robert Goodland, *The Case That the World Has Reached Limits*, in POPULATION, TECHNOLOGY, AND LIFESTYLE: THE TRANSITION TO SUSTAINABILITY 3, 13 (Robert Goodland, et al. eds., 1992).

⁴³ See U.S. ENVTL. PROT. AGENCY, NATIONAL AIR QUALITY: STATUS AND TRENDS THROUGH 2007, at 1 (2008), available at <http://www.epa.gov/airtrends/2008/index.html>.

⁴⁴ Garrett Hardin, *The Tragedy of the Commons*, 162 SCIENCE 1243 (1968).

⁴⁵ *Exodus* 20:17.

III. FAITH IN ACTION: BELIEVERS AND THEIR COMMUNITIES REFORMING ENVIRONMENTAL PRACTICES AND POLICIES

Do believers practice what they preach? The broad network of faith-based environmental activities suggests that they do. We can here only illustrate some nodes in this web-work, if one wishes a more ecological term. Both the Forum on Religion and Ecology, based at the Yale University School of Forestry and Environmental Studies, and the Alliance of Religions and Conservation, based in the United Kingdom, provide regular surveys of such activities, which number in the thousands.⁴⁶

John Houghton, an evangelical Christian and professor of atmospheric physics at Oxford, as well as the former director general of the U.K. Meteorological Office, has been a principal figure in the Intergovernmental Panel on Climate Change. He argues that dealing with global warming, an environmental concern, is as much a spiritual as a scientific problem, since it confronts limits to growth. He startled British political leaders with the claim that global warming already threatens British national security more than global terrorists. Politicians, he continued, are neglecting this "one duty above all others . . . to protect the security of their people."⁴⁷

Houghton was a principal influence on Richard Cizik, an American evangelical who became so outspoken about climate change that he was forced out of his position within the National Association of Evangelicals. If that indicates that some evangelicals lack environmental concern, the ensuing debate revealed strong support for environmental causes within the evangelical community. Consider also Michael S. Northcott, an ethicist at the University of Edinburgh School of Divinity, who has argued that by addressing the problem of climate change, we have the opportunity to solve many related social problems as well: world poverty, overuse of resources, destruction of forests, and other threats to the preservation of the non-human creation.⁴⁸ Andre Karamaga, the general secretary of the All Africa Conference of Churches, Africa's biggest grouping of churches, urges African Christians to mobilize in response to "the tellingly grim pictures of our future as a result of climate change, borrowing from what science tells us."⁴⁹

⁴⁶ For more information about these groups, see The Forum on Religion and Ecology at Yale, <http://fore.research.yale.edu> (on file with the Harvard Law School Library), and Alliance of Religions and Conservation, <http://www.arcworld.org> (on file with the Harvard Law School Library).

⁴⁷ John Houghton, *Global Warming Is Now a Weapon of Mass Destruction*, GUARDIAN (London), July 28, 2003, at 14.

⁴⁸ See generally Michael S. Northcott, A MORAL CLIMATE: THE ETHICS OF GLOBAL WARMING (2007).

⁴⁹ Andre Karamaga, Gen. Sec'y, All Afr. Conference of Churches, Statement on Climate Change and Human Rights, Address Before the African Commission on Human and Peoples' Rights (May 27, 2009), available at <http://globalministries.org/news/news/AACC-Statement-on-Climate-Change-at-the-45th-Ordinary-Session-of-ACHPR.pdf>.

For an extensive example of theological conviction brought to bear on environmental policy, consider *The Columbia River Watershed: Realities and Possibilities*, a letter the Roman Catholic bishops of the Pacific Northwest and British Columbia wrote in May 1999. In their reflections on how best to protect the resources of the Columbia River watershed, the bishops present salmon as a sign of the ecological health of the river and the "spiritual vitality" of the watershed.⁵⁰ If societal needs, species conservation, and the common good of all creatures are to be integrated for the good of the commons, then a relational consciousness like that of the bishops must replace dominion and stewardship attitudes toward creation.⁵¹

The two titans in plant conservation operate out of a deeply religious worldview. Sir Ghillean Prance, an evangelical Christian with a Scottish heritage, was the longtime director of the Royal Botanical Gardens, Kew, and was knighted for his work. Prance has argued that with the Earth under threat, "nature has to be cared for in its own right and not just as a means of satisfying human needs . . ." ⁵² "Christians must be in the forefront of the response if there is to be any lasting and serious commitment to responsible, sustainable stewardship of our planet."⁵³ Peter Raven, a Roman Catholic and the director of the Missouri Botanical Garden for three decades, was also the president of the American Association for the Advancement of Science and received the National Medal of Science, the highest award for scientific accomplishment in the United States.⁵⁴ *Time* named Raven a "hero of the planet" and summarized his imperative for saving God's creation: "The world is His garden: Better tread carefully."⁵⁵

R.J. "Sam" Berry is an ecologist and geneticist, active in the Church of England, and once president of the British Ecological Society. He was a U.K. delegate to the 1989 Economic Summit Nations (G-7) Conference on Bioethics, after which he chaired a working party for the European Commission, which produced an influential "Code of Environmental Practice."⁵⁶

⁵⁰ International Society for Environmental Ethics Newsletter, Spring 2000, http://www.cep.unt.edu/ISEE/nl_1-1-00.htm (citing Letter from the Catholic Bishops of the Columbia River Watershed Region, *The Columbia River Watershed: Caring for Creation and the Common Good* (Jan. 8, 2001), available at <http://www.columbiariver.org/files/pastoral-english.pdf>).

⁵¹ See generally John Hart, *Salmon and Social Ethics: Relational Consciousness in the Web of Life*, J. SOC'Y CHRISTIAN ETHICS, Fall 2002, at 67.

⁵² Ghillean T. Prance, *The Earth Under Threat*, in THE CARE OF CREATION: FOCUSING CONCERN AND ACTION 114, 116 (R.J. Berry ed., 2000) (quoting WORLD CONSERVATION UNION, UNITED NATIONS ENV'T PROGRAMME & WORLD WIDE FUND FOR NATURE, CARING FOR THE EARTH: A STRATEGY FOR SUSTAINABLE LIVING 13 (1991)).

⁵³ *Id.* at 117. See generally GHILLEAN PRANCE, THE EARTH UNDER THREAT: A CHRISTIAN PERSPECTIVE (1996); CLIVE LANGMEAD, A PASSION FOR PLANTS: THE LIFE AND VISION OF GHILLEAN PRANCE (1995).

⁵⁴ American Ass'n for the Advancement of Sci., AAAS Experts & Speakers Service, <http://www.aaas.org/ScienceTalk/raven.shtml> (on file with the Harvard Law School Library).

⁵⁵ Roger Rosenblatt, *Heart and Flowers*, TIME, Apr. 26, 1999, at 48.

⁵⁶ Berry, *supra*, note 5, at 252.

"[W]e are trustees, curators, guardians, and wardens of our environment."⁵⁷ Environmental ethics is based on "*stewardship of the living and non-living systems of the earth in order to maintain their sustainability for present and future, allowing development with forbearance and equity*"⁵⁸ Berry has been equally influential in ecological circles and in activities involving the Church of England, bridging the concerns of both.

Often in today's world, water is our milk and honey. Facing increasing drought in sub-Saharan Africa, the Lutheran World Federation, through its Department for World Service Ethiopia Program, worked to promote soil and water conservation. It built over 120 water development projects with a capacity of irrigating 30,000 hectares of land, providing sustainable livelihoods to over a quarter million persons. The program continues now as a sustainable Food Security program.⁵⁹ Living Waters for the World, a ministry of the Synod of the Living Waters of the Presbyterian Church (U.S.A.),⁶⁰ has trained more than 800 volunteers from the U.S. and other countries since the early 1990s. These volunteers have installed 312 water systems in 23 countries.⁶¹

The journalist Bill Moyers found, somewhat to his surprise, that the most politically effective opponents to mountaintop removal, currently devastating the Appalachian Mountains in West Virginia, were evangelical Christians, concerned about polluted streams and their health, but equally concerned about the loss of their mountains and saving creation. Julia Bonds leads Christian activists in the fight against mountaintop removal. Her family has lived in the West Virginia mountains for ten generations, and she is the daughter of a coal miner. She won one of the world's most prestigious environmental awards given to local activists, the Goldman Prize, in 2003. Typical of her religiously infused view of the landscape was her response when Donald Blankenship, the chairman and CEO of Massey Energy Company, said: "Capitalism, from a business point of view, is survival of the most productive." Bonds replied: "Which one of these mountains do you think God would come down here and blow up . . . heaping injustice upon the people?"⁶² Massey Energy Company has paid out millions of dollars in environmental settlements from damages resulting from leached toxic slurry.⁶³

⁵⁷*Id.* at 256.

⁵⁸*Id.* at 257.

⁵⁹LUTHERAN WORLD FED'N DEP'T FOR WORLD SERV.—ETHIOPIA PROGRAM LWF/EECMY, ANNUAL REPORT 2008, at 6 (2008), http://www.lutheranworld.org/What_We_Do/DWS/Country_Programs/Reports/DWS-Ethiopia_Report-2008.pdf.

⁶⁰The Synod encompasses churches in Mississippi, Tennessee, Kentucky, and Alabama.
⁶¹Living Waters for the World, http://www.livingwatersforthe.world.org/LWWPO_back_ground.php (on file with the Harvard Law School Library).

⁶²*Moyers on America: Is God Green?* (PBS television broadcast Oct. 11, 2006), available at <http://www.pbs.org/moyers/moyersonamerica/green/index.html>.

⁶³*Id.*

Similar effectiveness among mainstream Protestants and Catholics is documented in dozens of cases in a video set released in 1993, *The Greening of Faith*.⁶⁴ Today, even in the midst of budget cuts, the Presbyterian Church (U.S.A.) is creating a new environmental ministries office by directive of the church's governing General Assembly.⁶⁵ Or consider Rebecca Barnes-Davies' recent book, *50 Ways to Help Save the Earth: How You and Your Church Can Make a Difference*.⁶⁶ In the Methodist Upper Room devotional series, Sam Hamilton-Poore offers *Earth Gospel: A Guide to Prayer for God's Creation*.⁶⁷ COEJL, The Coalition on the Environment and Jewish Life, reports and coordinates environmental concerns from a Jewish perspective.⁶⁸

IV. FACING THE GLOBAL FUTURE: SCIENCE AND RELIGION JOINED IN ENVIRONMENTAL POLICY

I conclude by considering possibilities for joining religious and scientific concerns on a global scale. The following section presents evidence that religious faith can transcend narrowly self-calculating family, tribal, or national interests in favor of a comprehensive global concern, as has been seen in the missionary concern for the salvation of others. This salvation is now increasingly understood to require caring for the Earth, and sustaining the biosphere, the home for us all. Both science and religion can think and operate at world scales, with transgenetic senses of community, more so than other cultural institutions, such as government and law. Even global capitalism, as we have seen, favors the interests of the rich in the developed nations.

Facing the future, national environmental policy must become increasingly globally oriented. Nations claim their territorial landscapes and post their national boundaries sometimes, but rather rarely, along topographic features such as rivers or mountain divides. Such nations reside on their landscapes and will have, domestically, better and worse environmental policies. Such nations also are united inescapably in sharing air, water, oceans, climate, natural resources, migratory birds, and wildlife. This inescapable interdependence can also divide these nations. There is one Earth, on it are some 192 sovereign nations. Superimposed on this planetary wholeness is

⁶⁴ Videotape: *The Greening of Faith: Why the Environment is a Christian Concern* (Cathedral Films & Video 1993).

⁶⁵ Press Release, Presbyterian Church (U.S.A.), Presbyterian Church (U.S.A.) Environmental Ministry Office Reopens (May 14, 2009), <http://www.pcusa.org/pcnews/pressreleases/gac09014.htm> (on file with the Harvard Law School Library).

⁶⁶ REBECCA BARNES-DAVIES, *50 WAYS TO HELP SAVE THE EARTH: How You AND YOUR CHURCH CAN MAKE A DIFFERENCE* (2009).

⁶⁷ SAM HAMILTON-POORE, *EARTH GOSPEL: A GUIDE TO PRAYER FOR GOD'S CREATION* (2009).

⁶⁸ Coalition on the Environment and Jewish Life, <http://www.coejl.org/index.php> (on file with the Harvard Law School Library).

the politically fragmented world of human culture. "The Earth is one but the world is not."⁶⁹

Earth, seen from space, reminds us that people in their nations have entwined destinies not only with each other, but with this home planet that we inhabit. Common natural resources are more fundamental than national and private resources. The health and integrity of the global environment are not values that people or nations should let themselves become rivals about because they are not national or private resources. We need to think of these as world resources that belong to us all, even though nations and persons may legitimately control access to propertied natural resources. On global millennial scales, nations are as ephemeral as persons, and the world's faiths know this better than anyone else. The common natural heritage is only temporarily to be appropriated as national property, under the constraint of its conservation for the good of the whole planet. In a fundamental sense, Earth and its richness are things that belong to no one because they belong to us all—under God, the faithful will add.

The new millennium demands formulating globally effective environmental policies, as illustrated by the need to address global warming. This brings both challenge and opportunity. One challenge—dominating human self-interest—comes from biology, and believers claim resources for meeting that challenge. Another challenge comes from the dominance of (usually self-interested) economics, and, again, religions can claim to offer more transcending visions of value. There are opportunities for biology, economics, and religion to join in celebrating and conserving the Earth.

A. *Globalism and Biological Self-Interest*

Theologians have found in humans a tendency to self-interest, to selfishness, to sin; and now biologists concur, claiming to know something scientifically about human nature, that humans are innately selfish because of Darwinian natural selection. The nature inherited in human nature is self-interested and this, in today's environmental crisis, may prove self-defeating. Sociobiologists and evolutionary psychologists worry that the human disposition to survive has left humans too shortsighted to deal with the environmental crisis at the global level, a legacy of our evolutionary heritage. Humans are myopic and tribal. Conservationist scientists, environmental theologians, and even some politicians may reach more enlightened convictions and act on them. Perhaps in nations with strong central governments, national regulation can enforce longer-range environmental planning. But it seems impossible to bring six billion persons to act in any concerted global endeavors. *En masse*, they are not up to it.

The fossil record indicates that humans evolved into their present form during the Pleistocene epoch. Humans inherit Pleistocene urges, such as an

⁶⁹ WORLD COMM'N ON ENV'T & DEV., *supra* note 10, at 27.

insatiable taste for sugar, salt, fats—traits once adaptive, but which today make obesity a leading health problem. Extrapolating from that model, our global environmental problems result from such insatiable consumptive Pleistocene urges. There are few biological controls on our desire to amass goods, to consume; for most people, it has always been a struggle to get enough. (Indeed, for most it still is.) When we can consume, we love it, and we over-consume. Consumer capitalism transmutes a once-healthy pattern of desire into avarice. With escalating opportunities for consumption, driven by markets in search of profits, we need more self-discipline than comes naturally. Our self-interested tendencies overshoot. We love ourselves (egoism) and find it difficult to know when and how to stop serving ourselves. Even if we are naturally selected also to love our families and neighbors, since loving each other helps us to survive hard times, little is built into us about when to say *enough*. More, more, more—this builds our insatiable need for security.

Biologists may claim that humans are not genetically or psychologically equipped to deal with collective issues that upset individual goals.⁷⁰ We are naturally selected to look out after ourselves and our families, perhaps also to cooperate in tribes or for reciprocal benefits. Beyond that, they may claim, humans are not capable of more comprehensive altruism, such as considering the interests of others in foreign nations or in future generations, if this is at the expense of our own interests.⁷¹ Humans are not rational in any absolute or even global sense; they bend their reason to serve their interests, competitively against others—other nations, tribes, or neighbors—when push comes to shove. Hence the escalating violence and terrorism in today's world, with combatants as often as not claiming their cause in the name of some faith.

The same Genesis stories that celebrate creation also teach that humans fell into sin, driven by a desire to be like God, in tension with being made in the image of God. By biblical accounts, humans covet, worship false gods, corrupt their faiths, and rationalize in self-deception. Faiths must be ever-reforming; humans need their prophets and priests to constrain their kings. The righteous, the humane life balances all three dimensions. Christians may concede that their faith has indeed often been too anthropocentric, just as Christians have often been too self-centered. The need for repentance is perennial, as much so in environmental affairs as anywhere else.

Too often the religions remain tribal: God is for me, for my kind, my nation. "Love your neighbor and hate your enemies." Can enlightened science or enlightened religion get us past this legacy? Enlightenment science and Enlightenment religion, with all their focus on the (Western) human

³⁰ See generally PAUL R. EHRLICH & ANNE H. EHRLICH, ONE WITH NINEVEH: POLITICS, CONSUMPTION, AND THE HUMAN FUTURE (2004).

³¹ On the evolution of the capacity to care for others, see generally ELLIOTT SOBER & DAVID SLOAN WILSON, UNTO OTHERS: THE EVOLUTION AND PSYCHOLOGY OF UNSELFISH BEHAVIOR (1998); see also DAVID SLOAN WILSON, DARWIN'S CATHEDRAL: EVOLUTION, RELIGION, AND THE NATURE OF SOCIETY (2002).

powers and achievements, may now need transcending, leaving behind what has become a debilitating anthropocentric humanism, and embracing a more inclusive vision of the goodness of the whole community of life on Earth.

Religious believers may welcome enlightened self-interests, caring for family, patriotism, and mutually beneficial reciprocity, to a point. But they go on to insist that, while indigenous faiths may remain local, or locals may bend a more comprehensive faith to their denominational interests, the major world faiths have been quite transtribal, transnational. The parable of the Good Samaritan and the Golden Rule answer the question "Am I my brother's keeper?" A neighbor is anyone in need. Such faiths have spread widely around the globe. Christianity began in the Middle East, but there are now more Christians in South America than there. Reformed Christianity was launched in Switzerland, spread to Scotland, to North America, and today there are more Presbyterians in Korea than in any other nation. These Korean Presbyterians have themselves sent out several thousand missionaries to other countries.⁷²

This is good evidence that religious faith can transcend narrowly self-calculating family, tribal, or national interests with comprehensive global concern for the salvation of others, genetically unrelated. If so, and if this salvation now comes to be seen to require caring for the Earth, and sustaining the biosphere, the home for us all, religious faiths may already have on hand the commitment and resources needed for addressing global problems that require this larger, transgenetic, sense of community.⁷³

The classical religions claim that they alone among the human institutions have a deep-seated, universal, ethical concern adequate to address such transnational issues.⁷⁴ Consider the Jews, who, as elaborated above, can inhabit a land flowing with milk and honey only if justice rolls down like waters. Christians have their Golden Rule and parable of the Good Samaritan, Muslims their sense of brotherhood, and Buddhists their bodhisattvas with their vow of infinite compassion. "Give us this day our daily bread" is a necessary but contained prayer. Matthew 6:31-33 teaches us: "[D]o not be anxious, saying 'What shall we eat?' or 'What shall we drink?' or 'What shall we wear?' . . . [Y]our heavenly Father knows that you need them all. But seek first the kingdom of God and his righteousness, and these things shall be yours as well." In this vision, the good Earth is sustainable only by seeking to be righteous under God.

⁷² Overview of the Worldwide Reformed Church, Republic of Korea, http://www.reformiert-online.net/weltweit/75_eng.php (on file with the Harvard Law School Library).

⁷³ See generally THE GOOD IN NATURE AND HUMANITY: CONNECTING SCIENCE, RELIGION, AND SPIRITUALITY WITH THE NATURAL WORLD (Stephen R. Kellert & Timothy J. Farnham eds., 2002).

⁷⁴ Cf. ANDREW MICHAEL FLESCHER & DANIEL L. WORTHEN, THE ALTRUISTIC SPECIES 201-30 (2007).

B. Advocating Non-Economic Values

Values carried by wildlife and wild lands, like the values for which Christians stand, are in critical ways non-economic. Wildlife and wild lands have a good of their own; they have intrinsic value, not simply instrumental resource value in markets. Christians have often and admirably focused on economic values where humans have been unjustly deprived of jobs, food, shelter, and health care. But Christians, believing in the Creator and creation, also can and ought to have natural affinities for respecting nature. In wild land decisions, where wild lands are proposed to be sacrificed to meet human needs, Christians (and equally Jews and Muslims) can insist that these values be met instead on non-wild lands, on those enormous sectors of the continent that have been domesticated, and which are more than adequate to meet these needs, given a just distribution of their bounty. The values that religious persons wish to defend on the remaining wild lands are often the softer, more diffuse ones, and also deeper ones essential to an abundant life. When it can no longer offer an experience of wilderness, the land cannot fulfill all its promise. A pristine natural system is a religious resource, as well as a scientific, recreational, aesthetic, or economic one.

The monotheist faiths can, in concert, bring a perspective of depth on wild land conservation. They will see forests as a characteristic expression of the creative process. The forest is both the presence and symbol of forces in natural systems that transcend human powers and human utility. Like the sea or the sky, the forest is a kind of archetype of the foundations of the world, the presence and symbol of the timeless natural givens that support everything else. In the primeval forest, or on the desert or tundra, humans know the most authentic of wilderness emotions, the sense of the sublime. We get transported by forces awe-full and overpowering, by the signature of time and eternity. The ground under our feet links us with the Ground of our Being.

Why care for nature? If anything at all on Earth is sacred, it must be this enthralling creativity that characterizes the genesis on our home planet. If anywhere, here is the brooding Spirit of God. If there is any holy ground, this promising Earth is it. What we want is not just riches, but a rich life, and appropriate respect for the biodiversity on Earth enriches human life. Humans belong on the planet; they will increasingly dominate the planet. But we humans, dominant though we are, want to be a part of something bigger. Contemporary ethics has been concerned with inclusivity. Environmental ethics is even more inclusive. It is not simply what a society does to its poor, its slaves, children, minorities, women, handicapped, or future generations that reveals the character of that society, but also what it does to its fauna, flora, species, ecosystems, and landscapes. Whales slaughtered, wolves extirpated, whooping cranes and their habitats disrupted, ancient forests cut, Earth threatened by global warming: these are ethical and religious questions intrinsically, owing to values destroyed in nature; and instrumen-

tally, owing to human resources jeopardized. Humans need to include nature in their ethics; humans need to include themselves in nature.

"The common heritage of mankind" is the classical category for this global commons. Lately, much that was formerly tacit in this rich natural heritage has become explicit, owing to our new powers for modifying and degrading the biosphere. We are simultaneously coming to realize that this heritage is, ultimately, the creative, prolific system that we inhabit. On the global scale, Earth is not something we own. Earth does not belong to us; rather, we belong to it. We belong on it. We are product of the genesis on Earth, fitted and adapted for residence here. The question is not of property, but of community. In this life at least, this global identification is the most inclusive abundant life, the kingdom of God on Earth. Human well-being requires commitment to Earth as a gift of God held in sacred trust. The Hebrews had their promised land; Americans have their "purple mountain majesties above the fruited plain." Today, the caring has gone global. Today, we have an Earth with promise. But, facing the next century Earth, the planet of promise is a planet in peril. Saving the Earth is a high priority on the political agenda, and the crisis is as much a religious as a scientific one.

Jacques Attali, then president of the European Bank for Reconstruction and Development in London, faced the new millennium with this conclusion:

Each nation will search in its own way and according to its own traditions for a new equilibrium between order and disorder, between plenitude and poverty, between dignity and humiliation. ABOVE ALL, a new sacred covenant must be struck between man and nature so that the earth endures The . . . object that we must protect above all others is the earth itself, that precious corner of the universe where life is miraculously perched.⁷⁵

The ultimate unit of moral concern is the ultimate survival unit: Earth as sacred biosphere.

C. Biology and Religion Celebrating a Wonderland Earth

Politicians may look to scientists when they formulate environmental policy. They may also discover the millions of citizens in the churches backing them up, if also transcending that science. This combination of science and religion joined in celebrating a wonderland Earth and aggressive in their concern to save it will become increasingly effective in shaping congressional legislation. Further, as I have argued, the two together can moderate and balance the economic pressures that have previously dominated such legislation.

⁷⁵ JACQUES ATTALI, MILLENNIUM: WINNERS AND LOSERS IN THE COMING WORLD ORDER 129-30 (Leila Connors & Nathan Gardels trans., 1991).

Judeo-Christian monotheists, conversing with the conservation biologists, will invoke their Genesis accounts of a good creation.⁷⁶ They will cheer for the conservation biologists, delighted that within academic biology the growth of groups such as the Society for Conservation Biology has been spectacular, and that conservation biology is regularly featured in such publications as *Science* and *BioScience*. Bible writers already had an intense sense of the worth of creation and its need to be conserved. In Psalms 148:7-9, they celebrated nature's wonders: "Praise the LORD from the earth, you sea monsters and all deeps, fire and hail, snow and frost, stormy wind fulfilling his command! Mountains and all hills, fruit trees and all cedars! Beasts and all cattle, creeping things and flying birds!" In Psalms 65:11-13, they wrote: "[T]he hills gird themselves with joy, the meadows clothe themselves with flocks, the valleys deck themselves with grain, they shout and sing together for joy."

Encountering the vitality on their landscapes, the Hebrews formed a vision of creation cast in a Genesis parable. The brooding Spirit of God animates the Earth, and Earth gives birth. "The earth was without form and void, and darkness was upon the face of the deep; and the Spirit of God was moving over the face of the waters. And God said, 'Let there be light Let the waters bring forth swarms of living creatures Let the earth bring forth living creatures according to their kinds'"⁷⁷ Earth speciates. God, say the Hebrews, reviews this display of life, finds it "very good," and bids it continue. Current scientific vocabulary speaks of dispersal, conservation by survival over generations, and niche saturation up to carrying capacity. In Genesis 1:22, God says, more simply: "Be fruitful and multiply and fill the waters in the seas, and let birds multiply on the earth."

The ancient Hebrews marveled over the biodiversity in their environment; they celebrated the "swarms" of creatures brought forth from the Earth in the first chapter of Genesis. These were brought before man to name them (a taxonomy project!). Classically, theologians spoke of "plenty of being." The religiously minded, given their traditions, are, at first, more likely than the biologists to find intrinsic value in nature, given their scientific training in the nature-as-value-free tradition. But the biologists are easily converted. Contemporary biologists concur that Earth speciates with marvelous fecundity. The systematists have named these species and have catalogued a far more vast genesis of life than any available to ancient minds. Contemporary biologists, almost without exception, urge the conservation of this richness of biodiversity. Learn it from a conservation biology textbook, or learn it from the Bible: science and religion have a common and urgent agenda.

⁷⁶ See generally PETER W. BAKKEN, JOAN GIBB ENGEL & J. RONALD ENGEL, *ECOLOGY, JUSTICE, AND CHRISTIAN FAITH: A CRITICAL GUIDE TO THE LITERATURE* (1995) (offering a bibliographic survey).

⁷⁷ *Genesis* :2-24.

There is something awesome about an Earth that begins with zero and runs up toward five to ten million species in several billion years, setbacks and upsets notwithstanding. The long evolutionary history, as a fact of the matter, seems valuable. It commands respect, as biologists recognize. This respect deepens into reverence, as theologians claim. When one celebrates the biodiversity and wonders whether there is a systemic tendency to produce it, biology and theology become natural allies. But one has to go beyond science to say, "Amen, and so be it!" Allied, they will be knocking ever more loudly on legislators' doors, pressing them to join that chorus in conservation of America the Beautiful, of this Planet with Promise.