

GETTING RIGHT WITH NATURE

Anthropocentrism, Ecocentrism, and Theocentrism

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The past century has witnessed unprecedented economic growth and prosperity along with unprecedented depredations upon nature. To resolve these developments, there is debate between two moral postures. One takes a human-centered, or anthropocentric, view of our relationship to nature to emphasize the value of securing the resources needed for further development. The other takes an environment-centered, or ecocentric, view of our relationship to nature to emphasize the value of conserving her integrity and beauty. This article explores tensions underling these two views and finds that neither adequately reconciles us to nature. This article offers an alternative, theocentric view of our relationship to nature, founded upon Catholic Christianity, that reconciles in God our value for resources and nature and establishes a divine order of man and nature apart from human egoism and intentions. This article concludes with a discussion of the implications of this theocentric view for environmental policy and practice.

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The past century has witnessed unprecedented economic growth and human prosperity. The world population increased by a factor of four, the world economy increased by a factor of fourteen (Thomas, 2002), global per capita income tripled (World Business Council on Sustainable Development, 1997), and average life expectancy increased by almost two thirds (World Resources Institute, 1994).¹

But at the same time, the past century has witnessed unprecedented human impacts on the natural environment. The United Nations lists 816 species that have become extinct and 11,046 species that are threatened with extinction (United Nations, 2001). Nearly 25% of the world's most important marine fish stocks are depleted, overharvested, or just beginning to recover from overharvesting. Another 44% are being fished at their biological limit and are therefore vulnerable to depletion (World Resources Institute, 2000b). In 2003, 1 out of 5 people in the develop-

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ing world did not have reasonable access to safe drinking water (as defined by the United Nations), and roughly 2 out of every 5 did not have basic sanitation (Starke, 2004). The global rate of deforestation averaged 9 million hectares per year in the 1990s (World Resources Institute, 2001). Soil degradation on as much as 65% of agricultural land worldwide has become a major issue (World Resources Institute, 2000b). Issues such as species extinction, industrial pollution, forest loss, ecosystem degradation, overfishing, and degraded freshwater supplies are all a part of our contemporary world (Thomas, 2002). In short, human development is ruinous and cannot be sustained.

These environmental problems are not primarily technological or economic but behavioral and cultural (Bazerman & Hoffman, 1999). Although technological and economic activity may be the direct cause of environmentally destructive behavior, it is values, both cultural (Schein, 1992) and institutional (Scott, 1995), that guide development of that activity (Barley, 1986). Technologies are born of social values that guide identification of environmental problems in relation to human needs. Social values define what is right, good, and appropriate. In relation to the environment, social values define how we view nature and how we view our place within it. What is a forest, mountain, or river? Is it a stand of timber, a quarry of rock, or a source of power (Dreyfus, 1991)? Or, are these parts of broader ecosystems of life, human and nonhuman? Social values define rival environmentalisms.

Rival environmentalisms can be distinguished by the depth and the reach of their values. They are most easily distinguished by surface-level values visible in artifacts (recycling containers, hybrid automobiles, wind and solar energy generators) and gleaned from statements of belief (green politics, Environmental Protection Agency policies, international treaties and protocols). But rival environmentalisms are more fundamentally and importantly distinguished by their metaphysics, by their taken-for-granted assumptions about man² and nature and God (Sandelands, 2005). Who is man? What is nature? And is there a God? We believe that it is only by reaching to this deepest level of metaphysics that we can begin to reckon effectively with our current environmental dilemma.

We argue in this article that two distinct environmentalisms dominate thinking about nature today. One, labeled *anthropocentric*, centers on the needs of man and views nature in the light of these needs. The other, labeled *ecocentric*, centers on the needs of nature and views man in light of these needs (Catton & Dunlap, 1980). Behind both of these environmentalisms we find a common metaphysic that renders both inadequate for meeting our needs in the world today. We argue instead for a third environmentalism, labeled *theocentric*, that we believe is uniquely fitted to the task of meeting our needs. This third alternative rests upon a different metaphysic that turns out not to be new at all, but is very old, very familiar, and very much hiding in plain sight. This is the metaphysic of Catholic Christianity as it has been extended and preserved for millennia.

We begin our examination with a well-known case that illustrates the dominant chords of anthropocentric and ecocentric environmentalism in the modern era: the debate between John Muir and Gifford Pinchot over planned construction of the Hetch-Hetchy Dam in California in 1906. We continue our examination by tracing how, in virtue of their common metaphysic, these rival environmentalisms have come to both dominate and distort our thinking about man and nature today—including even a great deal of contemporary religious thinking on the topic. We then turn to an alternative, theocentric environmentalism founded upon the meta-

physic of Roman Catholic Christianity. We find in this divine metaphysic, unlike the metaphysic that dominates secular science and much religious thinking today, grounds for conceiving our true and proper relation to nature. Upon these grounds, we suggest the canonical virtues of a healthy and constructive contemporary environmentalism.

ANTHROPOCENTRIC VERSUS ECOCENTRIC ENVIRONMENTALISM

The Hetch-Hetchy Dam Debate

The question of how to value nature became a political issue in the United States at the beginning of the 20th century as a war of words, values, and ideals emerged over the water needs of the city of San Francisco and the sanctity of one of the country's most beautiful national parks, Yosemite. The ensuing debate took 7 years to resolve and involved newspapers, politicians, public debate, and the invocation of God. In 1906, San Francisco suffered the worst earthquake in its history, but worse than the earthquake were the fires that followed. As water supplies ran dry, the fires consumed much of the city. In their smoldering ruin, the mayor made a secure public water supply for the safety of the city's inhabitants one of his most important priorities. Lying east of the city was the Hetch-Hetchy Valley in Yosemite National Park. With its steep cliffs, narrow entrance, and abundant water flow, the valley was an ideal site for a dam.

At the same time, the country was rediscovering the value of nature as something important to its identity. An avid hunter and fisherman, President Theodore Roosevelt tripled the amount of national forest land, named five new national parks, and established the National Forest Service. Although it was clear that national forests were to be used for natural resource extraction as well as conservation purposes, the status of the national parks had not yet been established or tested. Between 1906 and 1913, eight congressional hearings were held on the issue. Representing the two sides of the debate were John Muir, the naturalist writer, and Gifford Pinchot, the first head of the U.S. Forest Service. Both had the ear of the president, and although both had extremely complex personalities and views on nature, their words can be used to highlight opposite views (Hott & Garey, 1989).

To John Muir, the idea of damming the Hetch-Hetchy was a sacrilege against God. He wrote,

Hetch-Hetchy valley is a grand landscaped garden, one of nature's rarest and most precious mountain temples. Dam Hetch-Hetchy, as well dam for water tanks the people's cathedrals and churches. For no holier temple has ever been consecrated by the heart of man. (Hott & Garey, 1989).

He railed against dam supporters (which he called "Satan and company"), writing, "These temple destroyers, devotees of ravaging commercialism, seem to have a perfect contempt for nature. And instead of lifting their eyes to the God of the Mountain, lift them to the almighty dollar" (Hott & Garey, 1989). With words and sentiments like these, Muir appealed to the moral conscience of Americans and mobilized support for the idea that this wilderness should be conserved because it possessed, if not embodied, spiritual value beyond what humans could comprehend.

For Gifford Pinchot, on the other hand, nature represented material resources for human needs (cf. Forbes, 2004). He argued that “the fundamental idea of forestry is the perpetuation of forest by use. Forest protection is a means to protect and sustain resources” (Hott & Garey, 1989). Pinchot believed that you could have multiple use of the national parks thereby allowing for hunting, fishing, grazing, forestry, watershed protection, and the preservation of wilderness values. In fact, he could not fathom the idea that utilitarian values should not drive land-use policies. He wrote,

As for me, I have always regarded the sentimental horror of some good citizens at the idea of using natural resources as unintelligent, misdirected and short-sighted. The question is so clear that I cannot understand why there's been so much fuss about it. The turning of the Hetch-Hetchy into a lake will not be a calamity. In fact, it will be a blessing. It is simply a question of the greatest good to the greatest number of people. (Hott & Garey, 1989)

In resolving the debate, Roosevelt sided with Pinchot. Although many of the nation's newspapers condemned the Hetch-Hetchy dam, Congress granted final approval for its construction in 1913. However, although the valley now lies submerged, this event had important bearing upon moral values and environmental protection. First, it marked the beginning of a formal acknowledgement in society that there is value to nature in what was seen as a primal state (Hott & Garey, 1989). Designated wild places have become a part of the American psyche such that no comparable intrusion into national parks has occurred since Hetch-Hetchy. In 1916, the National Park Service Act granted measures of protection for the rest of the system.

Second, it personified a fundamental struggle of ideals over how to view nature and man's place within it. In this debate, Muir and Pinchot represent two contrasting views of nature that have been articulated in several domains since then: anthropocentric and ecocentric (Catton & Dunlap, 1980). Gifford Pinchot's ideas represented the anthropocentric, or human-centered, view, which holds that unlimited human progress is possible through the exploitation of nature's infinite resources. Keeping with Francis Bacon's assertion that that we must “torture nature's secrets from her,” this view considers man separate from and superior to nature, and it considers nature as an inert machine, infinitely divisible and moved by external rather than internal forces (Gladwin, Kennelly, & Krause, 1995; Merchant, 1980). Of this view, C. S. Lewis (1953) observed, “We reduce things to mere *Nature* in order that we may ‘conquer’ them. We are always conquering *Nature*, because ‘*Nature*’ is the name for what we have, to some extent, conquered” (p. 44).

John Muir's ideas represented the ecocentric, or nature-centered, view that non-human nature has intrinsic value apart from its contributions to human development (Devall & Sessions, 1985). On this view, man is not separate or superior to nature but takes his place in nature's system. On this view, man's development should be sought only insofar as it does not infringe on the integrity of natural ecosystems (Egri & Pinfield, 1996).

Although these two men invoked this debate, it has yet to be resolved. The contest over anthropocentric and ecocentric values lives on in the debate over whether to allow oil companies to drill in the Alaska National Wildlife Refuge (ANWR). Should the value of a primal ecosystem such as ANWR—one that almost no

human will ever see—take primacy over the utilitarian needs of the United States for energy? Deeper moral questions are raised by this issue and are increasingly entering the debate. Would protecting ANWR be tantamount to reducing the status of man relative to nature? Should nature be subordinated to the resource needs of our consumerist society? Or, should these resource needs be subordinated to the preservation of wild places? Is there a moral imperative to resolve this dilemma?

The question of how to best think about our relation to nature is, by definition, a question bigger than we are. To answer such a question, we must appeal to a higher authority than our own. In particular, we might hope for direction from God as communicated by religious tradition. Given our growing power over and danger to nature, it is an appeal to make with increasing urgency.

Religious Dimensions of the Debate

Conservationist Aldo Leopold (1949) looked forward to an extension of moral judgment that would include maltreatment of the land, arguing that such an extension would not occur “without an internal change in our intellectual emphasis, loyalties, affections and convictions. [But] the proof that conservation has not yet touched these foundations of conduct lies in the fact that philosophy and religion have not yet heard of it” (p. 210). Indeed, religious teaching in his day appeared to support maltreatment of the environment. Many looked to Genesis as the origin of this support. Historian Lynn White (1967) offered this critique, writing that our ecological problems derived from Christian attitudes that lead us to think of ourselves as “superior to nature” and to be “contemptuous of it, willing to use it for our slightest whim” (p. 1205). Historian John Passmore (1974) continued this critique:

The Lord created man, so Genesis certainly tells us to have “dominion over the fish of the sea, and over the fowl of the air, and over the cattle, and over all the earth and over every creeping thing that creepeth upon the earth” (1:26). This has been read not only by Jew but by Christian and Muslim as man’s charter, granting him the right to subdue the earth and all its inhabitants. And God, according to Genesis, also issued a mandate to mankind: “Be fruitful and multiply and replenish the earth and subdue it” (1:28). So Genesis tells men not only what they can do, but what they should do—multiply and replenish and subdue the earth. God is represented, no doubt, as issuing these instructions before The Fall. But The Fall did not, according to the Genesis story, substantially affect man’s duties. What it did, rather, was to make the performance of those duties more onerous. After the Flood. . . . God still exhorted Noah thus: “Be fruitful, and multiply, and replenish the earth” (9:1). But then added two significant riders. The first rider made it clear that men should not expect to subdue the earth either by love or by exercise of natural authority, as distinct from force: “And the fear of you and the dread of you shall be upon every beast of the earth and upon every fowl of the air, upon all that moveth upon the earth and upon all the fishes of the sea: into your hand they are delivered” (9:2). The second rider—“every moving thing that liveth shall be meat to you” (9:3)—permitted men to eat the flesh of animals. In the Garden of Eden, Adam, along with the beasts, had been vegetarian, whose diet was limited to “every herb bearing seed . . . and every tree, in which is the fruit of a tree yielding seed” (1:29). Now, in contrast, not only the “green herb” but all living things were handed over to Adam and his descendants as their food. (p. 6)

Cistercian monk Thomas Merton (1963a) criticized this interpretation of subduing nature when he wrote that:

God's attitude toward his creation is supposed to give us a whole view that is totally different. [Bu'] our view of creation tends to be a pagan view. Use whatever is there—use it. Do what you want with it. You have the power over it. You can do anything you like with it. (1963a)

In a letter to Rachel Carson (marine biologist and author of *Silent Spring*, published in 1962), Merton (1963b) wrote that society is suffering from a "dreadful hatred of life" that is "buried under our pitiful and superficial optimism about ourselves and our affluent society" (p. 1). He felt that God's love is "manifested in all His creatures, down to the tiniest, and in the wonderful interrelationship between them" (Merton, 1963b, p. 1).

Much has changed since these critiques were written, making their challenge all the more urgent. Historian Paul Kennedy (1993) made an important distinction between the environmental dangers of today compared to those of Leopold's, Carson's, Merton's, Passmore's, and White's time. He warned that:

The environmental crisis we confront [today] is quantitatively and qualitatively different from anything before, simply because so many people have been inflicting damage on the world's ecosystem during the past century that the system as a whole—not simply its various parts—may be in danger. (Kennedy, 1993, p. 96)

Indeed, in today's changing context of global climate change, species extinction, and endocrine disruption, many of the world's Christian religions are becoming more involved in environmental issues and, as a consequence, reconsidering their view of environmental morality. In 1991, the Presbyterian Church decided to place environmental concerns directly into the church canon thus making it a sin to "threaten death to the planet entrusted to our care" ("Presbyterians Ratify Teaching," 1991, p. 4). In 1997, His All Holiness Bartholomew I, spiritual leader of the world's Orthodox Christians, equated specific ecological problems with sinful behavior. He announced that:

For humans to cause species to become extinct and to destroy the biological diversity of God's creation, for humans to degrade the integrity of the Earth by causing changes in its climate, its water, its land, its air, and its life with poisonous substances—these are sins. (Stammer, 1997, p. A1)

Moving beyond statements of values, Christian views on environmental protection are also being mobilized into social and political action. In 1996, Christian evangelical groups rallied support for Endangered Species Act reauthorization, calling it "the Noah's ark of our day" and challenging Congress's apparent attempt to "sink it" (Steinfels, 1996). In 1998, both the National Council of Churches (a coalition of Protestant, Greek Orthodox, Catholic, and Jewish religious leaders) and the National Religious Partnership for the Environment (a coalition of the National Council of Churches, the U.S. Catholic Conference, and the Coalition on the Environment and Jewish Life) rallied to support the Kyoto Treaty on climate change by sending a letter to President Clinton and lobbying senators to get the treaty implemented, because it is "an important move towards protecting God's children and God's creation" (Cushman, 1998, p. A10).

But, this enfolding of religious and environmental values, particularly as it relates to political and social action, has led many within the religious community to express concern. Such "green spirituality" is seen by some as a move beyond

concern for balanced stewardship and toward worship of the environment and exaltation of "horticulture over humanity" (Acton Institute, 1999). Their worry is that preaching the environmental message threatens to put trees and animals ahead of people and before God as the center of the universe. "There is a certain pantheistic element in all this," warned Reverend Robert Dugan of the National Association of Evangelicals (Kloehn, 1997, p. A1). After the 1990 Earth Day, Cardinal John O'Connor expressed concern that some environmentalists may be deifying the environment (such as those who support the Gaia Principle—the notion that the earth is one organism). He cautioned that "the earth exists for the human person and not vice versa," adding that until "we've developed respect for the human person, we are not going to have respect for our planet" (Goldman, 1990, p. B12). Thomas Derr (1996) argued that "we have an obligation to care for [nature] as a fit habitat for human beings. . . . Our commitment and our duty is to love the world both for our own sakes, and for love of its Maker" (p. 23).³

The debate joined by these religious faithful parallels that between Muir and Pinchot on the politics of anthropocentric and ecocentric values. And by its parallel, it highlights what we believe is the crucial question about man's relationship to the environment. Must the debate take such polar terms? Must the interests of humans and nature be seen as separate and in conflict? Just as politicians are caught between the rock of meeting human needs for resources and the hard place of preserving nature's integrity and beauty, religious commentators are torn between the idea of man's God-given dominion over nature and the idea to respect God's creation of nature. With both we sit, uneasily, on the horns of a dilemma.

A Metaphysical Dilemma

The deep reason for our moral confusion and polarizing politics about the environment lies in our very conception of man and nature. The debate between anthropocentric and ecocentric environmentalisms reflects an inherently unstable and inevitably fatal metaphysic. This is the two-term metaphysic of Rene Descartes that distinguishes mind from body, mind from matter, and mind from nature. This is the two-term metaphysic of modern science that relates mind and nature as subject and object. By its lights, there is only man-the-subject and nature-the-object, and between them, there is only the question of which of the two has priority.

This metaphysic of subject and object is unstable because it tends toward one or another extreme image of man's relationship to nature. In the image of anthropocentrism, man is figure and nature is ground. Man-the-subject dominates nature-the-object (see Figure 1). In the image of ecocentrism, nature is figure and man is ground. Nature-the-object dominates man-the-subject (see Figure 1). Each image is its own track of thought, its own worldview, and each image culminates in its own ideology. Anthropocentrism culminates in existentialism—a philosophy of subjectivity that takes man to be everything. Existence is what man makes it to be. Man himself has no preexisting essence but comes into being by the choices he makes. Existentialism, in other words, defines man by his free will and finds that man exists only as he exercises his freedom in the world and over nature. In contrast, ecocentrism culminates in naturalism—a philosophy of objectivity that takes nature to be everything. Nature is her own tale of creation, a story that began perhaps with the big bang and has unfolded over eons of cosmologic, geologic, climatic, and biologic change. Naturalism, in other words, defines man as one of the numberless facts of nature—as one flower upon one stem upon one branch upon one limb of the great tree of existence. Between these ideologies, between the sub-

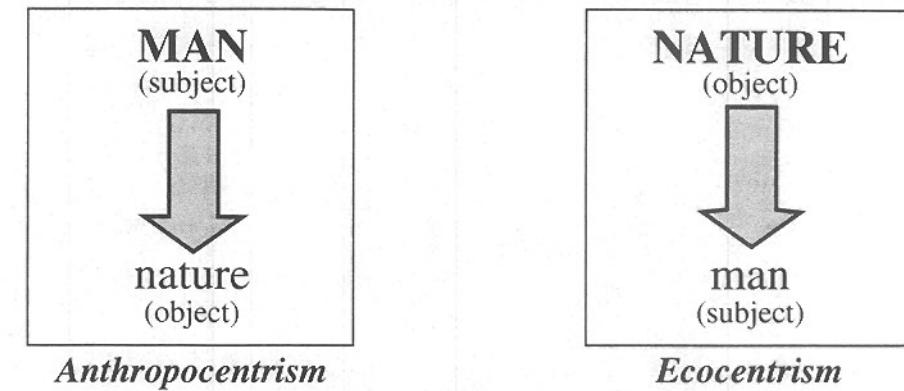


FIGURE 1: Anthropocentric and Ecocentric Metaphysics

jectivity of existentialism and the objectivity of naturalism, there is no middle ground and thus no place to stand for compromise (Sandelands, 2005). There is ground only for polarizing debate.

This two-term metaphysic of subject and object is also fatal, because it denies man the meaning that he needs to live. As Becker (1971) pointed out, because man the thinker—*Homo sapiens*—lives in a world of meaning, he must think his life is meaningful to live it at all. If denied meaning, he is denied a reason to live, a reason to care for his own needs, and a reason to care for others. Taken to their logical extremes, both the anthropocentric and ecocentric views of man and nature deny man this necessary measure of meaning. On one hand, it may seem an irony that the anthropocentrism that puts man at the center of existence nevertheless finds that his life has no meaning. Yet, this is precisely the anxious insight of existentialism, epitomized at the start of Albert Camus's (1955) *The Myth of Sisyphus*. "There is but one serious philosophical problem," wrote Camus, "and that is suicide" (1955, p. 1). In Camus's formulation, man is absurd. He exists only in his freedom, but his only true freedom is to choose not to exist. This idea is at the root of existentialism's notorious bleakness and unremitting angst. On the other hand, it may seem less an irony that the ecocentrism that puts nature at the center of existence finds that man's life has no meaning. Lewis (1953) wrote searchingly of this problem in *The Abolition of Man*, finding in natural science a step-by-step progression that subordinates man to nature and that in its final step eliminates man altogether:

Every conquest over Nature increases her domain. The stars do not become Nature till we can weigh and measure them: the soul does not become Nature till we can psychoanalyze her. The wresting of powers *from* nature is also the surrendering of things *to* Nature. As long as this process stops short of the final stage we may well hold that the gain outweighs the loss. But as soon as we take the final step of reducing our own species to the level of mere Nature, the whole process is stultified, for this time the being who stood to gain and the being who has been sacrificed are one and the same. . . . It is the magician's bargain: give up our soul, get power in return. But once our souls, that is, ourselves, have been given up, the power thus conferred will not belong to us. We shall in fact be the slaves and puppets of that to which we have given our souls. (pp. 71-72)

Perhaps the surest sign of the destructive power of the metaphysic of subject and object is that it confounds even religious ideas of our relationship to nature. This is

one of the lessons of Protestant Christianity. Rising from the social and cultural soil of the Renaissance, the Protestant Reformation was founded upon its Cartesian metaphysic of mind (subject) and body (object) (Shanahan, 1992). Beginning with Luther, the Protestant reformers called the individual person to his or her own relationship to God based on his or her own readings of sacred scripture. In so doing, these reformers distinguished the individual person as subject from God and from nature. God and nature thereby became objects of conception and interpretation. In the Cartesian metaphysic of the day, the being and powers of God and nature had become things to know and understand and love.

Having given religious sanction to the metaphysic of subject and object, the Protestant Reformation changed—and we would argue, compromised—man's relationship to nature. First and foremost, it committed men to its unstable and fatal polarity between anthropocentrism and ecocentrism. Second, it became the ethic for and spirit behind the rapid rise of the very economic capitalism (Weber, 1930) that has had a devastating impact on the natural environment. We in the West are the children's children's children's children of the Reformation, and we in the West are at odds with nature today.

TOWARD A THEOCENTRIC ENVIRONMENTALISM

We believe there is an alternative environmentalism that reaches beyond the political and religious debates between anthropocentrism and ecocentrism and, by so doing, offers clear and constructive ideas about our relationship to nature. This is an environmentalism centered on God—an environmentalism that is theocentric rather than anthropocentric or ecocentric. This is the environmentalism embedded within Catholic theology.

A Theocentric Metaphysic

The key to this alternative theocentric environmentalism lies in the older and pre-Cartesian metaphysic of The Church before the Reformation. This is the metaphysic of The Church's deposit of faith, or what is known as its dogmatic Magisterium. The Magisterium is the living word of God; it defines, among other things, relations between God, man, and nature that are to be accepted in faith, without question, and without recourse or appeal to personal interpretation. The truth of the Magisterium is *before* the Cartesian metaphysic of subject and object—*before* subjective experience, *before* individual reason, and thus *before* that marriage of experience and reason we today call science. For the faithful, this truth trumps all subjective belief about the objective world. For the faithful, there is God's truth apart from and superior to human truth. Indeed, this is the lesson of the faith about the fall of man in the Garden of Eden. When Adam and Eve ate the forbidden fruit of the Tree of Knowledge, they sinned against God by setting up themselves as His equal, apart from creation. It is a sin we repeat today when we set up ourselves likewise as God-like subjects, apart from a world of objects. The Magisterium is thus a bulwark against that egoism by which we today regard everything in creation, including nature and God Himself, as objects to our subject.

According to the faith, man and nature are separate creations of God. After creating the terrestrial world, the God of Genesis created nature and at every stage saw that it was good. "Then God said, 'Let the earth put forth vegetation: plants yielding seed, and fruit trees of every kind on the earth that bear fruit with the seed in it'" (Genesis 1:11). "And God said, 'Let the waters bring forth swarms of living crea-

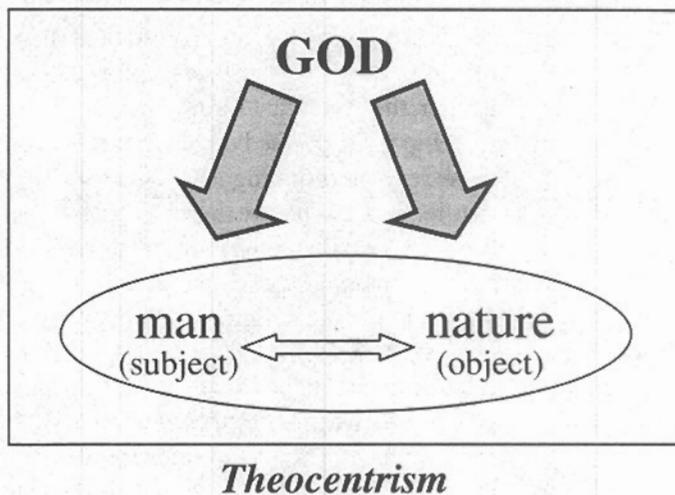


FIGURE 2: Theocentric Metaphysic

tures and let birds fly above the earth across the dome of the sky" (Genesis 1:20). "And God said, 'Let the earth bring forth living creatures of every kind: cattle and creeping things and wild animals of the earth of every kind'" (Genesis 1:24). Then, after He created nature, God created man on the 6th day:

Then God said, "Let us make man in our image, according to our likeness; and let him have dominion over the fish of the sea, and over the birds of the air, and over the cattle, and over all the wild animals of the earth, and over every creeping thing that creeps upon the earth." (Genesis 1:26)

Unlike the two-term metaphysic of anthropocentrism and ecocentrism that defines only man and nature, the three-term metaphysic of the faith defines man and nature in relation to the God that created them both (see Figure 2).

Thus, Augustine (1909) saw God as the author of both man and nature, writing,

I asked the earth, and it answered me, "I am not he"; and whatsoever are in it confessed the same. I asked the sea and the deeps, and the living creeping things, and they answered, "We are not Thy God, seek above us." (Book X, § VI)

Pascal (1966) saw nature as he saw man, as possessing the imprint of God's majesty, writing that "nature is an infinite sphere whose center is everywhere and circumference nowhere. In short it is the greatest perceptible mark of God's omnipotence that our imagination should lose itself in that thought" (§ 72). Liebniz (1976) saw God's handiwork in the complexity of nature's design, writing, "Nothing better corroborates the incomparable wisdom of God than the structure of the works of nature, particularly the structure which appears when we study them more closely with a microscope" (p. 566). Kuyper (1943) saw "two means whereby we know God, *viz.*, the Scriptures and Nature" (p. 120). These men saw God's design in connections between man and nature. Each saw nature as he saw man, as a creation in the image of God.

In this Catholic metaphysic, we see man's essential relationship to nature. Man and nature are related in God. Sharing the same Father, they relate as siblings in love and mutual respect. There are no grounds to suppose one includes or dominates the other. Man does not lord over nature, and nature does not lord over man. God lords over both. It is a relation that Chesterton (1908) captured beautifully with an image of them as sisters:

Only the supernatural has taken a sane view of Nature. The essence of all pantheism, evolutionism, and modern cosmic religion is really in this proposition: that Nature is our mother. Unfortunately, if you regard Nature as a mother, you discover that she is a stepmother. The main point of Christianity was this: that Nature is not our mother: Nature is our sister. We can be proud of her beauty, since we have the same father; but she has no authority over us; we have to admire, but not to imitate. This gives to the typically Christian pleasure in this earth a strange touch of lightness that is almost frivolity. Nature was a solemn mother to the worshippers of Isis and Cybele. Nature was a solemn mother to Wordsworth or to Emerson. But Nature is not solemn to Francis of Assisi or to George Herbert. To St. Francis, Nature is a sister, and even a younger sister: a little, dancing sister, to be laughed at as well as loved. (pp. 115-116)

By identifying man with nature as descendants of God, and by putting this identification ahead of our personal conceptions, the faith of The Church establishes the limits within which our modern scientific metaphysic of subject and object can be a means to know and act upon nature. God's hand in creation is the all-important qualifier to our understanding of the world and our practice in the world. To take His hand is to see that our deepest and truest relation to nature is not the direct one of the two-term Cartesian metaphysic, not the relation that turns on the question of whether man dominates nature or nature dominates man, but the indirect relation to nature of the three-term Christian metaphysic of God, the relation that joins us to nature in God. It is the difference that puts quotation marks around our "scientific knowledge" of nature, to see that its facts are built upon our egoistic convention of distinguishing nature-as-object from ourselves-as-subject instead of upon the truth that we and nature are joined in God. And it is the difference that makes all the difference in what we see and feel and do. Here is the difference captured by Schaeffer (1970) in his relation to a tree:

Why do I have an emotional reaction toward the tree? For some abstract or pragmatic reason? Not at all. Secular man may say he cares for the tree because if he cuts it down his cities will not be able to breathe. But that is egoism, and egoism will produce ugliness, no matter how long it takes. On this basis technology will take another twist on the garrote of both nature and man. The tyranny of technology will grow to be almost total. But the Christian stands in front of the tree, and has an emotional reaction toward it, because the tree has a real value in itself, being a creature made by God. I have this in common with the tree: we were made by God and not just cast up by chance.

Suddenly, then, we have real beauty. Life begins to breathe. The world begins to breathe as it never breathed before. We can love a man for his own sake, for we know who the man is—he is made in the image of God; and we can care for the animal, the tree, and even the machine portion of the universe, each thing in its own order—for we know it to be a fellow creature with ourselves, both made by the same God. (p. 77)



A Theocentric Environmentalism

Jesus, in his "Sermon on the Mount" (Matthew 6:26-6:30), held up the birds and flowers of nature as a model for how to live within God's plan. In fact, throughout his sermons and parables, he invoked metaphors and images of nature—mustard seeds, sheep, shepherds, fish, fishermen, soil, planting, harvesting, grain, wheat, trees, springs of water—as conveyances of moral teaching. God created man and nature on the same plan, each in relation to the other.

In his *Canticle of the Creatures*, St. Francis of Assisi went further by connecting humans in "solidarity among all creatures" and all aspects of nature. Bonaventure (1978) wrote,

When he considered the primordial source of all things, he was filled with even more abundant piety, calling creatures, no matter how small, by the name of brother or sister, because he knew they had the same source as himself. However, he embraced more affectionately and sweetly those creatures which present a natural reflection of Christ's merciful gentleness and represent him in Scriptural symbolism. (p. 250)

Against this backdrop of Catholic teaching, Pope John Paul II (1995) identified our current ecological crisis in the Encyclical Letter, *Evangelium Vitae*, as reflecting a way of thinking about ourselves and nature apart from God:

Once all reference to God has been removed, it is not surprising that the meaning of everything else becomes profoundly distorted. Nature itself, from being "mater" (mother), is now reduced to being "matter", and is subjected to every kind of manipulation. This is the direction in which a certain technical and scientific way of thinking, prevalent in present-day culture, appears to be leading when it rejects the very idea that there is a truth of creation which must be acknowledged, or a plan of God for life which must be respected. Something similar happens when concern about the consequences of such a "freedom without law" leads some people to the opposite position of a "law without freedom," as for example in ideologies which consider it unlawful to interfere in any way with nature, practically "divinizing" it. Again, this is a misunderstanding of nature's dependence on the plan of the creator. Thus it is clear that the loss of contact with God's wise design is the deepest root of modern man's confusion, both when this loss leads to a freedom without rules and when it leaves man in "fear" of his freedom.

By living "as if God did not exist", man not only loses sight of the mystery of God, but also of the mystery of the world and the mystery of his own being. (p. 11)

It is important to emphasize that even while Jesus, St. Francis, and John Paul recognize man's unique creation in the image of God, they extol the entirety of God's worldly creation as evidence of the virtue of God's design. For us to likewise appreciate the entirety of that creation we must change our presently dominant views toward it. We must change from seeing creation as a collection of individual objects (of man and nature) to seeing creation as a totality of life. Monica Weis (1992) called for a deepening realization that "earth and heaven are not separate entities, and that our actions should flow from and express the dynamic balance and interconnectedness of life" (p. 7). An appreciation of the interconnectedness of all life involves an "on-going dialogue with nature" (Allenby, 2002) as a part of God's creation and plan. It does not involve the deification of nature. Rather, it signals an awareness of the relation and interconnectedness between man and nature

in God. When we see ourselves together with nature in the whole of God's creation, we see any mistreatment of nature on our part as a metaphysical error, as a failure to appreciate how we and nature relate in God (Sandelands, 2005). We fail to see how we and nature are neighbors in the past, present, and future of existence.

Where, then, is the boundary between man and nature? This simple question has been debated for centuries and reflects the varying views over what is nature. For some, nature is found only in the wilderness, the lonely places untouched or unspoiled by mankind (Williams, 1980). For others, it is found in the manicured gardens and landscapes that have been shaped by mankind. Rather than seeing these views in opposition, it is worthwhile to see them both as important. In building a home, man naturally enters into a relationship with nature, shaping it to satisfy specific and immediate needs while remaining alert to the natural systems by maintaining green space, avoiding floods, managing wildlife, and the like. But as world population increases, pressures increase to limit the wild in favor of the altered—pressures that are driven, in part, by modern hubris and technocratic blindness (Allenby, 2002). The wilderness is a complex collection of species whose relationships and processes are beyond man's full understanding but may be essential to the maintenance of the ecosystems of the earth. Furthermore, primeval nature provides a link between man and his origins, "a sense of community with the past and the rest of creation" (Dubos, 1976, p. 461). More importantly, this sense of community includes a human relationship with God, the creator.

But the balance of that relationship is being upset. Human societies have historically seen their actions and nature as separate to problematic result. Today,

The [environmental] crisis is not simply something we can examine and resolve. We *are* the environmental crisis. The crisis is a visible manifestation of our very being, like territory revealing the self at its center. The environmental crisis is inherent in everything we believe and do; it is inherent in the context of our lives. (Everden, 1985, p. 128)

In his 1990 World Day of Peace Address, Pope John Paul II (1990) argued that "today, the dramatic threat of ecological breakdown is teaching us the extent to which greed and selfishness—both individual and collective—are contrary to the order of creation, an order which is characterized by mutual interdependence" (§ 8). This notion can be used to see man and nature as a living totality animated by the designs and purpose of its creator—a system of which God is the critical and integral part. Seeing man alongside nature as creations of God shifts our perspective from viewing man either as above nature or as below nature to viewing man and nature interconnected in communion. It is a cognitive shift from simply "man and nature" or "man in nature" (Colby, 1991; Dowie, 1995) to "man and nature *in* God" (Sandelands, 2005), a shift from seeking dominance to seeking harmony, a shift from seeing man or nature as victim or at the mercy of the other to seeing man and nature in the mutuality of God's love.

This mutuality in God animates the role of steward by balancing the Genesis mandate for dominion with the challenge of restraint and replenishment. Man may press nature into his service, but he himself must also serve nature to preserve her integrity and, where possible, to improve her. Whereas anthropocentric and eco-centric environmentalisms invite controversy between these two objectives, theocentric environmentalism forswears their dichotomy and thereby controversy between them.⁴ It suggests, rather, that where the two objectives cannot be met at

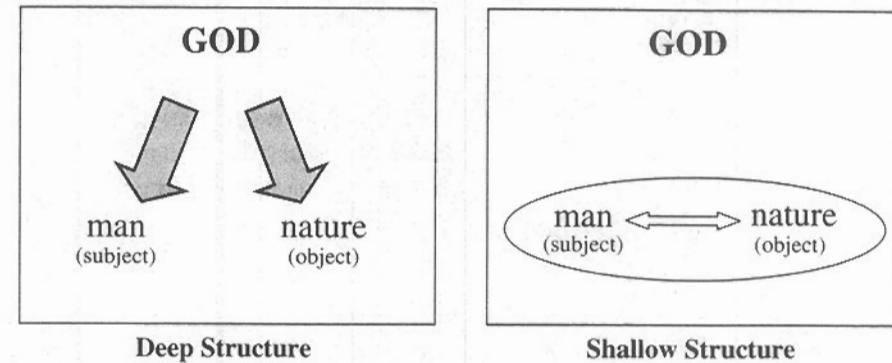


FIGURE 3: Deep and Shallow Structures of Man and Nature

the same time, it is because they are misunderstood as being opposed to one another. The challenge thus is determining how and when this misunderstanding may arise. And in this challenge comes an understanding of appropriate actions within a theocentric perspective: when to use technology to dominate nature and when to subsume material demands for the replenishment of a stable environment.

We can think differently about these objectives by seeing them in relation to the structure God has given to man's relationship to nature. This relationship can be conceptualized as possessing both a *deep structure* (depicted on the left side of Figure 3 by the bold lines linking man and God and linking nature and God), which is the foundation of what God intended, and a *shallow structure* (depicted on the right side of Figure 3 by the dashed line linking man and nature), which is the objective relation that man intends for himself apart from God (Stackhouse, 2001). In the shallow structure, nature is an objective resource for man. It is subdued to improve his life in the areas of food production, drinking water supplies, shelter, urban environments, and transportation. In this structure, man participates in God's creation by taking nature into his own hands and by seeking a symbiosis or creative partnership (Dubos, 1976). In the deep structure, man resists intrusion into nature's fabric. Activities are curtailed that lead to species extinction, global climate change, and ecosystem collapse. It is in the deep structure that the inherent value in nature becomes clear when it should be protected for its own sake. On this level, the underlying moral aspects of behaviors that tamper with or damage nature's systems become evident.

Stewards have an obligation to use their intellect and seek the wisdom to understand the complex environmental web that God has created. The values used to guide the purpose and trajectory of technological activity must be such as to distinguish when that activity is working within the shallow structure or tampering with the deep structure, or when human needs should take precedence and when they should not. In the shallow structure, there is an obligation to search for ways to merge the needs of the human economy with the needs of the natural ecology. For example, there is a moral imperative to using intellectual abilities to discover alternative sources of energy that place little or no burden on the material resources or pollution adsorption capacities of the earth. Or similarly, there is a moral imperative to perfect tree farming, aquaculture, and silviculture rather than exhausting existing ecosystems whose complexity is beyond human understanding. In the deep structure, there is an obligation to learn the complexity of nature before

attempting to act in ways that may interfere with it. This requires an understanding of the connections between human actions and environmental effects, the limits of the environment to absorb resource extraction and waste disposal, and the constantly changing state of the environment.

A moral appreciation for a differentiated role within nature brings to light new types of questions about how to interact within it. For example, a new debate has emerged over the production of genetically modified food—a debate that pits those who see the benefits that this technology can bring to food production (an important human need) against those who see this as tampering with the underlying structure of nature (an important concern for self-restraint). In another example, global use of fossil fuels has increased nearly 5 times between 1950 and 2000 such that worldwide emissions of the greenhouse gas carbon dioxide (CO_2) had increased to 23 billion metric tons in 1999—an 8.9% increase since 1990 (World Resources Institute, 2003). This trend is predicted by many scientists—and even the Pentagon (Stipp, 2004)—to yield rising sea levels, more violent storms and floods, increased rates of species extinction, migration of vector-borne diseases, greater scarcity of freshwater supplies, and the forced migration of human populations. Theocentric thinking has a role to play in such debates. To resolve such debates, we can begin by asking whether genetically modified foods or greenhouse gas production affects the deep or shallow structures of nature. In answering this question, we invoke economic, political, and technological capabilities but find also an important place for foundational moral values to guide such thoughts and actions. And in answering this question, we come to what is often a difficult counsel of hardship and self-sacrifice. It is deeply wrong (a violation of deep structure) to interfere in God's creation of man and nature and to refuse His gift of life to each.

Theocentrism in Practice: Conservation Virtues

The theocentric view of man and nature in God puts our conduct in and toward the environment in a new light. It means that everything we do in this world, every act we take toward others and toward nature, finds its meaning and value in God. Just as we are called to be ever mindful, ever considerate, and ever charitable toward others, we are called to be likewise toward nature. Thus, just as it is wrong to use another person for selfish and expedient ends, it is wrong to subdue nature without seeing to her replenishment. Both are immoral for reasons of prideful arrogance. Both are instances of taking without giving back and destroying thoughtlessly without creating thoughtfully. Human needs must be redefined beyond the utility satisfaction of simply self-interested desires. They must be seen instead in the light of God's intentions, intentions that include respect for the nature He created for our benefit. And human actions must be oriented to the good of God's creation. At the same time that they honor the good that is God's creation of man, they must honor the good that is God's creation of nature. A theocentric view of man and nature thus subtends a morality of charity and conservation unlike those of the anthropocentric and ecocentric views of man and nature. It is a morality of distinctive virtues we may think of as canonical.

Humility. The "ability to see the cultural value of nature boils down, in the last analysis, to a question of intellectual humility" (Leopold, 1949, p. 200). And humility is perhaps the cardinal virtue of theocentrism, which recognizes an

omnipotent and inscrutable God before man and before nature and which thereby recognizes the severe limitations of man's knowledge and action.

There is much that man does not understand about the natural environment; in particular, its carrying capacity to provide the resources that people need and to bear the pollution that people create. Many environmental problems have long time lapses between cause and effect such that the damage is created before it is detected (such as global climate change). Others have complex and poorly understood pathways between cause and effect (such as synthetic chemicals and endocrine disruption). Although wisdom is necessary to understand nature, the humility to acknowledge all that is not known is also necessary. Lacking knowledge of the impact of human actions compels practice of the precautionary principle and acting with prudence while acknowledging that all life that comprises the whole of God's creation has value. Knowledge and humility are both necessary to know when technological prowess outpaces man's ability to assess its impact on the environment. Or as poet Robert Browning (1970) wrote, "a man's reach should exceed his grasp" (p. 675).

Respect. A key to gaining humility is to respect God's creation by seeking our proper human role within it. If, as a result of the fall, humanity was ousted from the position as caretaker of Eden, how can a Christian assert the right, or the knowledge, of proper earth management today? To simply treat nature as a thing without value beyond our estimate is materialism and objectification of God's creation. Theocentrism is a challenge to the view that the environment is for man alone, that it exists only for his or her material consumption, to see that the environment is for God, that it is part of His loving creation of man and nature together. What are the moral implications of vivisection pursued for profit (Gaines & Jermier, 2000)? What are the moral implications of hunting pursued for pleasure? Is it a sin to impose suffering upon livestock through large-scale food production? Is it a sin to use grain to fatten livestock rather than to feed the poor? Is it a sin to clear-cut a forest for business profit? Do such actions objectify and reduce the life in nature to mere material value, having no worth beyond what humans extract or assign to it?

Hunting deer in a community in which the size of the herd has overgrown the limits of the ecosystem to support it clearly represents the role of steward. It is active participation in managing the shallow structure. Hunting mountain lions in the American West or elephants in Africa solely for personal pleasure may, in contrast, be a selfish and materialistic intrusion into the deeper structures of their respective ecosystems. It disrespectfully objectifies God's creation to regard these creatures solely in the light of subjective intents and pleasures.

Selflessness. Many environmental problems result as the cumulative effect of many individual actions that are either occurring at the same time or have gone on for centuries. A theocentric environmentalism calls for a reduction in society's impact on the earth's ecosystems, even and especially in cases where individual actions collectively destroy nature's commons. This environmentalism calls for the necessary self-limitation and self-sacrifice by making it clear that every action taken in the world—every environmental appropriation and every environmental insult—is taken in relation to nature, in relation to man, and in relation to God. Thus, even the smallest environmental insult of littering may be seen as an act of estrangement from nature, from neighbor, and from God. It is self-centered and even narcissistic to think that the environment stops where one chooses it to stop or to think that one's personal interest is separate from the interests of others. Every

act that threatens nature and/or that threatens man is a sign and form of disrespect for what God has made.

Moderation. To subdue and take from nature without self-restraint is just the specter of materialism, an arrogant possession of what is not owned simply because it is desired. By its reckoning of the shallow and deep structures of man's relation to nature, theocentrism guides people to use only what is needed from the shallow structure, share what resources are available for the benefit of all, and leave alone resources that are part of the deeper structure. It is a counsel of moderation. By challenging the use of the earth's resources—such as by calling for less virgin materials and less waste disposal—theocentrism stands in stark contrast to the unrestrained materialism and consumerism of today's society. Consider, for example, the worldwide industrial system that provides for the growing needs of billions of people. In 2000, private worldwide consumption expenditures reached more than \$20 trillion, an increase of more than fourfold since 1960 (in 1995 dollars; Starke, 2004). Vast amounts of material resources are used to fuel this consumption, and of these amounts, some 50% to 70% becomes waste within a year (World Resources Institute, 2000a). Is this amount of material use and disposal necessary? Theocentrism challenges mankind to move beyond seeking satisfaction *from* nature and search for satisfaction *in* nature as God designed it. It leads to a view that it is morally right to consume in moderation and recycle or reuse resources wherever possible.

Mindfulness. Earlier in this article, His All Holiness Bartholomew I was quoted as stating that "for humans to degrade the integrity of the Earth by causing changes in its climate, its water, its land, its air, and its life with poisonous substances—these are sins" (Stammer, 1997, p. A1). This is quite a list of sins, sins humans generally commit by definition. Nearly everything man does creates some environmental impact: driving a car, heating a house, buying material goods, even eating and breathing. Some issues, such as overconsumption, have a choice involved. Others, such as breathing, do not. Theocentrism calls for thoughtful choices. When the impacts of actions on the environment are known and when alternative actions are available, they should be exercised. Thus, it would be an inappropriate choice to dump used oil into the local storm drain and ultimately into the local river (in many U.S. cities) when recycling alternatives are available. But there may be no choice to drive to the grocery store or fly to an academic conference. Mindfulness leads to a reexamination of practices such as planned obsolescence, disposable products, and excessive packaging. And, mindfulness leads to an obligation to try and change systems that damage the environment.

Responsibility. Unfortunately, we may have reached a point in our lives where there may no longer be such a thing as a pristine environment (McKibben, 1989). All areas of the earth appear to show the fingerprint of human influence. Even the blood samples of polar bears in the supposedly primal ANWR show traces of man-made dioxins. Our unending curiosity to explore new issues, our relentless push for economic development, and our continuing need for new technology bring us to a new awareness of our relation to nature. With each new advance comes new understanding of the problems that have been created and the solutions they require. The theocentric mandate voiced by God in Genesis for replenishment of nature stands as a moral challenge to correct damages inadvertently created. Indeed, where we have disrupted the deep structure of our relation to nature—as shown, for example,

by birth defects due to chemical pollution or by decimated fish populations due to disruptive fishing techniques—we have a responsibility to use whatever means are available to recover as best as possible the organic harmonies God created. We are obliged to reverse these disruptions, whether we can see all of their connections to our survival and whether their reversal seems contrary to certain of our needs.

Such are a few of the conservation virtues of theocentrism. In these virtues, we see that environmental problems have moral components, not only because of their implications for mankind but even more because of their implications for man's relation to nature. By its appreciation for the totality of God's creation, theocentrism brings into new light questions about the morality of persistent issues such as species protection, forestland destruction, and industrial pollution. It makes it plain that these questions cannot be satisfactorily answered without taking into account that deep structure of man's relation to nature established by God. It makes it plain that we cannot act morally in nature unless and until we see that we are joined with her in God.

CONCLUSION

Man's spiritual challenge today is to apply both faith and reason to find ways to live in harmony with nature. If contemporary environmental problems are to be solved, then moral teaching must be a part of the effort to end environmentally destructive behavior. Such moral teaching can and must consider implications of ecological impact, even when that impact does not bear directly on human existence. Unfortunately, the inertia of history based on material values and the forceful domination of nature make adoption of such moral teachings an enormous challenge. As the late philosopher Hans Jonas (1973) warned 30 years ago, "For such a role of stewardship no previous values and ethics have prepared us" (p. 40). And as Stephen Jay Gould wrote, humans have become "the stewards of life's continuity on earth. . . . [We] cannot abjure it. We may not be suited for it, but here we are" (Gould as cited in Calvin, 1994, p. 107). The imperative for moral teaching and guidance in assuming this role has never been more needed.

Genesis holds that "in God's plan man and woman have the vocation of 'subduing' the earth as stewards of God" (Ligouri Publications, 1994, p. 95). Theocentric environmentalism imbues that vocation with humility and respect. As Weis (1992) wrote,

No longer can we humans see ourselves and our selfish desires as the center of living and the sole criterion for decision making. Our vocation is not to dominate the earth. Our vocation is to discover community with it. Understanding our true position as one living species on this living planet is . . . a recognition of ourselves as made of the very stuff of the planet. (pp. 8-9)

It is, moreover, a recognition of that grand *we* that is man and nature in God (Sandelands, 2005).

This is not to challenge the spiritual primacy of man versus nature, but it is to see that debate over the spiritual hierarchy is a distraction from the broader idea that man is joined with nature in God's creation. Just as man's spiritual stock suffered no loss when Galileo displaced Earth from the center of the solar system, it suffers no loss with the idea that man and nature are cocreations of God. Theocentrism is no threat to man's central station in God's creation. Made in the image of God, man does and must always occupy first position in God's creation—Genesis pro-

nounces it and man's instinctive drive for self-preservation demands it. But theocentrism tells us that man's first position demands of him the virtues of charity, humility, respect, selflessness, mindfulness, moderation, and responsibility toward nature.

Thus, in reckoning the moral implications of the relationship between man and nature, we see in theocentrism that the need to protect human populations is correct but not complete. In man's degradation of the environment, we see how human activities can deviate from God-given ideals. Such degradation is a prideful arrogance toward God's creation and an abdication of our responsibility to find harmony in it. To distance nature from ourselves, by treating it as object to our subject or by seeing it as inanimate and subservient to our material desires, is to falsify its truth, which is that it is, as we are, a creation of God. This is an ongoing legacy of Adam and Eve's original fall from God's grace in the Garden of Eden.

Finally, to the important question of how to bring about a theocentric environmentalism, we might turn again to Catholic teachings. In the Encyclical Letter, *Centesimus Annus*, Pope John Paul II (1991) offered a provocative counterpoint to the too widely accepted view of man's domination of nature, a counterpoint that should be brought to the fore of religious teaching on environmental protection:

In his desire to have and to enjoy rather than to be and to grow, man consumes the resources of the earth and his own life in an excessive and disordered way. At the root of the senseless destruction of the natural environment lies an anthropological error, which unfortunately is widespread in our day. Man, who discovers his capacity to transform and in a certain sense create the world through his own work, forgets that this is always based on God's prior and original gift of the things that are. Man thinks he can make arbitrary use of the earth, subjecting it without restraint to his will, as though it did not have its own requisites and a prior God-given purpose, which man can indeed develop but must not betray. (p. 56)

This statement challenges us to turn our minds, hearts, and actions toward nature and respect the value God created in it. It is a challenge we shall forever repeat. Given our ability to alter the environment in globally catastrophic ways, we must protect nature for a reason greater than our own—namely, that God wants and expects us to do so.

NOTES

1. U.S. life expectancy rose from 47.3 years to 77.3 years between 1900 and 2002 (National Center for Health Statistics, 2004). But, although this and other advances we cite are notable, widening income disparities mean that not all people share in the material and economic progress of the past century (Crosette, 1998a, 1998b).

2. It is not our intention to offend any readers by using the global term *man*. We chose this term to be consistent with the many quotations used in this article and also to be consistent with the tradition in anthropology of using *man* to represent all of humanity.

3. Father Robert Sirico, president of the Acton Institute for the Study of Religion and Liberty leads the charge against what he calls the "grave danger of green spirituality." Its goals, he believes, are "not to preserve nature's beauty, but to restrict the advance of economic progress" (Sirico, 1999, p. A10). He warned that "looking upon nature as a lens through which we see God's hand as author of creation is not the same as finding God Himself present in nature, much less substituting nature for God" (Sirico, 1999, p. A10). He feels that economic growth is paramount to the betterment of humankind and that any environmental efforts to restrict such growth are wrong. "Having respect for God's created order,"

he wrote, "does not mean that it cannot and must not be used for the benefit of humankind; rather a belief in the sanctity of life requires that we accept our responsibilities to have dominion over nature" (Sirico, 1999, p. A10). To see otherwise:

comes close to suggesting that the life of "nature" is as precious as that of human beings. It is impossible to avoid the conclusion that this theory would reduce the status of human life to that of the animal kingdom. In addition, owing to its radical implications for economic systems, it would likely lead to the massive curbing of production, economic exchange and innovation. (Sirico, 1999, p. A10)

He added, "religious environmentalists are too willing to bend their faith in order to please those who place the Earth, as opposed to man, at the center of God's creation" (Sirico, 1994, p. 47).

4. Even without taking a theocentric perspective, a number of authors also find this dichotomy between the needs of nature and the needs of man (through the economy) to be false (i.e., Hart, 1997; Hoffman et al., 1999; Porter & van der Linde, 1995).

REFERENCES

- Acton Institute for the Study of Religion & Liberty. (1999). [Organization flier]. Grand Rapids, MI: Author.
- Allenby, B. (2002). *Observations on the philosophic implications of earth systems engineering and management* [Batten Institute Working Paper]. Charlottesville: University of Virginia.
- Augustine. (1909). *Confessions* (E. Pussey, Trans.). New York: Collier. (Original work published 397)
- Barley, S. (1986). Technology as an occasion for structuring: Evidence from observations of CT scanners and the social order of radiology departments. *Administrative Science Quarterly*, 31, 78-108.
- Bazerman, M., & Hoffman, A. (1999). Sources of environmentally destructive behavior: Individual, organizational and institutional perspectives. *Research in Organizational Behavior*, 21, 39-79.
- Becker, E. (1971). *The birth and death of meaning* (2nd ed.). New York: Free Press.
- Bonaventure. (1978). *The life of St. Francis*. Mahwah, NJ: Paulist Press.
- Browning, R. (1970). Andrea del sarto. In I. Jack (Ed.), *Robert Browning: Poetical works (1833-1864)* (pp. 673-679). London: Oxford University Press.
- Calvin, W. (1994). The emergence of intelligence. *Scientific American*, 271(4), 101-107.
- Camus, A. (1955). *The myth of Sisyphus*. London: Hamish Hamilton.
- Carson, R. (1962). *Silent spring*. Boston: Houghton Mifflin.
- Catton, W., & Dunlap, R. (1980). A new ecological paradigm for post-exuberant sociology. *American Behavioral Scientist*, 20(1), 15-47.
- Chesterton, G. K. (1908). *Orthodoxy*. New York: Dodd, Mead.
- Colby, M. (1991). Environmental management in development: The evolution of paradigms. *Ecological Economics*, 3, 193-213.
- Crossette, B. (1998a, September 27). Kofi Anna's astonishing facts. *New York Times*, pp. 4-16.
- Crossette, B. (1998b, September 13). Most consuming more, and the rich consuming much more. *New York Times*, p. 3.
- Cushman, J. (1998, August 15). Religious groups mount a campaign to support pact on global warming. *New York Times*, p. A10.
- Derr, T. (1996). *Environmental ethics and Christian humanism*. Nashville, TN: Abingdon.
- Devall, B., & Sessions, G. (1985). *Deep ecology*. Salt Lake City, UT: Peregrine Smith Books.

- Dowie, M. (1995). *Losing ground: American environmentalism at the close of the twentieth century*. Cambridge, MA: MIT Press.
- Dreyfus, H. (1991). *Being in the world: A commentary on Heidegger's being and time*. Cambridge, MA: MIT Press.
- Dubos, R. (1976). Symbiosis between earth & humankind. *Science*, 193, 459-462.
- Egri, C., & Pinfield, L. (1996). Organizations and the biosphere: Ecologies and environments. In S. R. Clegg, C. Hardy, & W. R. Nord (Eds.), *Handbook of organization studies* (pp. 459-483). London: Sage.
- Evernden, N. (1985). *The natural alien*. Toronto, Canada: University of Toronto Press.
- Forbes, L. (2004). A vision for cultivating a nation: Gifford Pinchot's "The fight for conservation." *Organization & Environment*, 17(2), 226-231.
- Gaines, J., & Jermier, J. (2000). Animal inequality and organizations: Introduction. *Organization & Environment*, 13(4), 426-428.
- Gladwin, T., Kennelly, J., & Krause, T. (1995). Shifting paradigms for sustainable development: Implications for management theory and research. *Academy of Management Review*, 20(4), 874-907.
- Goldman, A. (1990, April 23). Focus on humans, Cardinal cautions. *New York Times*, p. B12.
- Hart, S. (1997). Beyond greening: Strategies for a sustainable world. *Harvard Business Review*, 75(1), 66-76.
- Hoffman, A., Gillespie, J., Moore, D., Wade-Benzoni, K., Thompson, L., & Bazerman, M. (1999). A mixed-motive perspective on the economics versus environment debate. *American Behavioral Scientist*, 42(8), 1254-1276.
- Hott, L. (Director), & Garey, D. (Director). (1989). *The wilderness idea: John Muir, Gifford Pinchot and the first great battle for wilderness* [Video documentary]. Santa Monica, CA: Direct Cinema Limited.
- Jonas, H. (1973). Technology and responsibility: Reflections on the new tasks of ethics. *Social Research*, 40, 31-54.
- Kennedy, P. (1993). *Preparing for the twenty-first century*. New York: Random House.
- Kloehn, S. (1997, February 10). Evangelicals see beasts as blessed by their creator. *The Chicago Tribune*, pp. A1, A16.
- Kuyper, A. (1943). *Lectures on Calvinism*. Grand Rapids, MI: Eerdmans.
- Leibniz, G. (1976). *Philosophical papers and letters of Leibniz* (L. E. Loemker, Trans., Ed.). Boston: Reidel. (Original work published 1695)
- Leopold, A. (1949). *A Sand County almanac, and sketches here and there*. New York: Oxford University Press.
- Lewis, C. S. (1953). *The abolition of man*. New York: Macmillan.
- Ligouri Publications. (1994). *Catechism of the Catholic Church*. Ligouri, MO: Author.
- McKibben, B. (1989). *The end of nature*. New York: Random House.
- Merchant, C. (1980). *The death of nature: Women, ecology and the scientific revolution*. San Francisco: Harper & Row.
- Merton, T. (1963a, April 3). *Lecture: St. Thomas: The importance of creation in God's view* (Cassette Recording No. 95A). Louisville, KY: Thomas Merton Studies Center.
- Merton, T. (1963b, January 12). *Letter to Rachel Carson*. Louisville, KY: Thomas Merton Studies Center.
- National Center for Health Statistics. (2004). *Health, United States, 2004*. Washington DC: Department of Health & Human Services.
- Pascal, B. (1966). *Pensees* (A. Krailsheimer, Trans.). London: Penguin. (Original work published 1670)
- Passmore, J. (1974). *Man's responsibility for nature: Ecological problems and Western traditions*. New York: Scribner.
- Pope John Paul II. (1990). *The ecological crisis a common responsibility, message of His Holiness for the celebration of the World Day of Peace January 1, 1990*. Retrieved March 14, 2005, from <http://www.ewtn.com/library/PAPALDOC/JP900101.HTM>
- Pope John Paul II. (1991). *Encyclical letter centesimus annus*. Boston: Pauline.

- Pope John Paul II. (1995). *Encyclical letter evangelium vitae*. Boston: Pauline.
- Porter, M., & van der Linde, C. (1995). Green and competitive: Ending the stalemate. *Harvard Business Review*, 73(5), 120-134.
- Presbyterians ratify teaching on sex, ecology. (1991, June 9). *The Boston Globe*, p. 4.
- Sandelands, L. (2005). *Man and nature in God*. New Brunswick, NJ: Transaction.
- Schaeffer, F. A. (1970). *Pollution and the death of man: The Christian view of ecology*. Wheaton, IL: Tyndale House.
- Schein, E. (1992). *Organizational culture and leadership*. San Francisco: Jossey-Bass.
- Scott, W. R. (1995). *Institutions and organizations*. London: Sage.
- Shanahan, D. (1992). *Toward a genealogy of individualism*. Amherst: University of Massachusetts.
- Sirico, R. (1994, August 29). The greening of American faith. *National Review*, p. 47.
- Sirico, R. (1999, March 4). Beware grafting environmental ideology on to orthodox faith. *The Detroit News*, p. A10.
- Stackhouse, M. (2001). The spirit and modern authority. In M. Stackhouse, D. Browning, & P. Paris (Eds.), *God and globalization: Part 2* (pp. 21-35). Harrisburg, PA: Morehouse.
- Stammer, L. (1997, November 9). Harming the environment is sinful, prelate says. *Los Angeles Times*, p. A1.
- Starke, L. (2004). *State of the world 2004: A Worldwatch Institute Report on progress toward a sustainable society*. New York: Norton.
- Steinfels, P. (1996, January 31). Evangelical group defends endangered-species laws as a modern Noah's ark. *The New York Times*, p. C19.
- Stipp, D. (2004, February 9). The Pentagon's weather nightmare. *Fortune*, pp. 99-108.
- Thomas, W. (2002). Rio's unfinished business: American enterprise and the journey toward environmentally sustainable globalization. *Environmental Law Reporter*, 32, 10873-10955.
- United Nations. (2001). *Global status of biological diversity* [E/CN.17/2001/PC/18]. New York: United Nations Commission on Sustainable Development.
- Weber, M. (1930). *The Protestant ethic and the spirit of capitalism* (T. Parsons, Trans.). New York: Scribner. (Original work published 1904)
- Weis, M. (1992, Autumn). Living beings call us to reflective living. *Merton Seasonal*, pp. 4-9.
- White, L. (1967). The historical roots of our ecological crisis. *Science*, 155, 1203-1207.
- World Business Council on Sustainable Development. (1997). *Exploring sustainable development: WBCSD global scenarios*. London: Author.
- World Resources Institute. (1994). *World resources*. Oxford, UK: Oxford University Press.
- World Resources Institute. (2000a). *Weight of nations: Material outflows from industrial economies*. Washington, DC: Author.
- World Resources Institute. (2000b). *World resources, 2000-2001: People and ecosystems*. Washington, DC: Author.
- World Resources Institute. (2001). *Understanding the forest resources assessment 2000*. Washington, DC: Author.
- World Resources Institute. (2003). *World resources 2002-2004: Decisions for the earth: Balance, voice, and power*. Washington, DC: Author.

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