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## Environmental Ethics

### Some Challenges for Christians

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Christianity is a religion for people; its ethical genius lies in redeeming persons. The great commandments are to love God and neighbor; the Golden Rule is doing to others as you would have others do to you. These "neighbors" and "others" are persons, the victim left helpless by thieves, aided by the Good Samaritan, or the brother forgiven seventy times seven. Animals do not sin, or need repentance, rebirth, or forgiveness; they are not alienated from their God, nor do they need exhortation to love neighbors. So perhaps Christianity cannot be expected to provide an environmental ethics.

Yet God created the fauna and flora and pronounced them to be very good. Humans are given dominion over the Earth, and Israel is given a promised land, flowing with milk and honey. "Behold I establish my covenant with you and your descendants after you, and with every living creature that is with you, the birds, the cattle, and every beast of the earth with you." (Gn 9.5). In modern terms, the covenant was both ecumenical and ecological. "A righteous man has regard for the life of his beast" (Prv 12.10). The ox that treads out the grain is not to be muzzled (Dt 25.4). That begins to suggest an environmental ethics.

Jesus urges, "My kingdom is not of this world." That first suggests no environmental ethics at all. But then we realize that he was teaching in the Imperial Roman world, and that his reference in "this" is to the fallen world of the culture he came to redeem, to false trust in politics and economics, in armies and kings. God loves "the world," and in the landscape surrounding him Jesus found ample evidence of the presence of God. He teaches that the power organically manifest in the growing grain and the flowers of the field is continuous with the power spiritually manifest in the kingdom he announces. There is an ontological bond between nature and spirit.

The birds of the air neither sow nor reap yet are fed by the heavenly Father, who notices the sparrows that fall. Not even Solomon is arrayed with the glory of the lilies, though the grass of the field, today alive, perishes tomorrow (Mt 6). There is in every seed and root a promise. Sowers sow, the seed grows secretly, and sowers return to reap their harvests. "Blessed are the meek, for they shall inherit the earth" (Mt 5.5). The Revelation of John closes with a new heaven and a new earth, a garden city. That suggests nature in grace and grace in nature.

What follows is a series of questions whether Christians have, or need to develop, an environmental ethics. We will be exploring whether there are some general compass directions that Christians can follow, though we often add caution, wondering whether Christians do not need guidance from outside the faith, before they can determine routes of travel more completely. We can suggest only provisional answers.

There is no doubt, we should notice at once, that Christians can and ought to have an ethic concerning the use of the environment. Humans are helped or hurt by the condition of their environment, and if there are duties to humans at all, there will be applications of these duties to environmental issues. No one can love neighbor, or do to others as one would be treated oneself, in disregard of that neighbor's life-support system in the natural world. That much, however, is only concern for the environment as contributory to human welfare; the environment is secondary and instrumental to human goods. Is there a primary Christian environmental ethics, one with a direct concern for animals, plants, species, ecosystems, perhaps even for the planet?

### I. Animals

It might seem easy enough to extend the Christian ethic to animal neighbors. But, on further reflection, just to treat animals like people is not very discriminating. In some ways they are our cousins, in other ways not.

The world cheered in the fall of 1988 when we rescued two gray whales from the winter ice off Point Barrow, Alaska. The whales were stranded for three weeks several miles from open water, rising to breathe through small—and shrinking—holes in the ice. Chainsaws cut pathways through the ice and a Russian icebreaker broke open a path to the sea. We spent more than a million dollars to save them; they drew the sympathy of millions of people. A polar bear, coming in to eat the whales, was chased away. Television confronted the nation with the plight of the suffering whales. Seeing them sticking their heads out of the ice and trying to breathe, everybody wanted to help. We saved the whales. People felt good about it. Christians could rejoice, "Yonder is

the sea, great and wide, which teems with things innumerable. ... There go the ships, and Leviathan which them didst form to sport in it" (Ps 104.26).

But was that really the right thing to do? Maybe it was too much money spent, money that could have been used better to save the whales—or to save people. Maybe money is not the only or event the principal consideration. Maybe our compassion overwhelmed us, and we let these two whales become a symbol of survival, but they do not really symbolize our duties in conservation and animal welfare. The whales needed help; maybe we need help thinking through our duties to wildlife. Consider a less expensive case, no big media event.

One February morning in 1983 a bison fell through the ice into the Yellowstone River, and, struggling to escape, succeeded only in enlarging the hole. Toward dusk a party of snowmobilers looped a rope around the animal's horns and, pulling, nearly saved it, but not quite. It grew dark and the rescuers abandoned their attempt. Temperatures fell to twenty below that night; in the morning the bison was dead. The ice refroze around the dead bison. Coyotes and ravens ate the exposed part of the carcass. After the spring thaw, a grizzly bear was seen feeding on the rest, a bit of rope still attached to the horns.

The snowmobilers were disobeying park authorities who had ordered them not to rescue it. One of the snowmobilers was troubled by the callous attitude. A drowning human would have been saved at once; so would a drowning horse. The Bible commends getting an ox out of a ditch, even if this means breaking the Sabbath (Lk 14.5). It was as vital to the struggling bison as to any person to get out; the poor thing was freezing to death. A park ranger replied that the incident was natural and the bison should be left to its fate.

A snowmobiler protested, "If you're not going to help it, then why don't you put it out of its misery"? But mercy-killing too was contrary to the park ethic, which was, in effect: "Let it suffer!" That seems so inhumane, contrary to everything we are taught in Christianity about being kind, doing to others as we would have them do to us, or respecting the right to life. Isn't it cruel to let nature take its course? The snowmobilers thought so. One contacted radio commentator Paul Harvey, who made three national broadcasts attacking park service indifference. Harvey said, "The reason Jesus came to earth was to keep nature from taking its course." Was the Yellowstone ethic too callous, inhumane?

Such cases can be multiplied. In April 1989 in Glacier National Park a wolverine attacked a deer in deep snow but did not finish the attack. The injured deer struggled out onto the ice of Lake McDonald, but, hamstrung, could move no further. Park officials declined to end its

suffering. So the lame deer suffered throughout the day, the night, and died the following morning. One woman, who had seen the animal, said to me that she thought the park ethic quite unchristian.

On Christmas Day 1987 in Theodore Roosevelt National Park in North Dakota, park visitors found two bucks with entangled antlers. One buck had already died and coyotes had eaten the hind parts, also nipping the rear of the live buck, emaciated from the ordeal. Taking compassion, the visitors sought the park ranger on duty, who explained the park ethic. Wild animals should be left to their fates; humans should not interfere. But the visitors, against park regulations and at risk of a fine, freed the buck anyway. After all, the saving was on Jesus' birthday.

The national park ethic has concluded that a simple extension of compassion from human, and Christian, ethics to wildlife does not appreciate their wildness. Perhaps we are beginning to see the trouble with rescuing those whales. Or maybe we are carrying this let-nature-take-its-course ethic to extremes. We are beginning to worship nature. Has ethics here somehow gone wild in the bad sense, blinded by a philosophy of false respect for cruel nature? Can this indifference be the right ethics for wild animals? Can it be godly to say, "Let them suffer!"?

The rescue of individual animals—a couple of whales, a bison, a few deer—is humane enough and does not seem to have any detrimental effects, but that may not be the end of moral considerations, which ought to act on principles that can be universalized. Perhaps it brings these duties into clearer focus to consider populations, herds with hundreds of animals. The bighorn sheep of Yellowstone caught pinkeye (conjunctivitis) in the winter of 1981-82. On craggy slopes, partial blindness can be fatal. A sheep misses a jump, feeds poorly, and is soon injured and starving. More than 300 bighorns, over 60 percent of the herd, perished.

Wildlife veterinarians wanted to treat the disease, as they would have in any domestic herd, but, again, the Yellowstone ethicists left the sheep to suffer, seemingly not respecting their life. Their decision was that the disease was natural, and should be left to run its course. A Christian may protest, "Where's the mercy? How inhumane! Where is the good shepherd caring for his sheep?" But perhaps mercy and humanity are not the criteria for decision here.

The ethic of compassion must be set in a bigger picture of animal welfare, recognizing the function of pain in the wild. The Yellowstone ethicists knew that, while intrinsic pain is a bad thing whether in humans or in sheep, pain in ecosystems is instrumental pain, through which the sheep are naturally selected for a more satisfactory adaptive fit. To have interfered in the interests of the blinded sheep would have weakened the species. Simply to ask whether they suffer is not enough. We must ask whether they suffer with a beneficial effect on the wild population.

Of course we treat children who catch pinkeye. We put them to bed, draw the curtains, and physicians prescribe eyedrops with sodium sulfacetamide. The *Chlamydia* microbes are destroyed and the children are back outside playing in a few days. But they are not genetically any different than before the disease, nor will the next generation be different. When the grandchildren catch pinkeye, they will get eyedrops too. But that is an ethic for culture, where humans interrupt and relax natural selection. There one ought be compassionate. The welfare of the sheep still lies under the rigors of natural selection. As a result of the park ethic, those sheep that were genetically more fit, able to cope with the disease, survived; and this coping is now coded in the survivors. Caring for these sheep does not mean bringing them safely into the fold; it means caring that they stay wild and free.

What we *ought* to do depends on what *is*. The *is* of nature differs significantly from the *is* of culture, even when similar suffering is present. A human being in a frozen river would be rescued at once; a human attacked by a wolverine would be flown by helicopter to the hospital. Bison and deer are not humans and we cannot give them identical treatment; still, if suffering is a bad thing for humans, who seek to eliminate it, why is suffering not also a bad thing for bison? We cannot give medical treatment to all wild animals; we should not interrupt a predator killing its prey. But when we happen upon an opportunity to rescue an animal with the pull of a rope, or mercy-kill it lest it suffer, why not? If we can treat a herd of blinded sheep, why not? If we can feed the deer, starving in the winter, why not? That seems to be what human nature urges, and why not let human nature take its course? That seems to be what Jesus urges, doing to others as you would have them do to you, and why not follow the golden rule?

The answer is that both these compassionate feelings innate in us and also as the imperatives urged by our Christian education are misplaced when they are transferred to the wilds. A bison in a wild ecosystem is not a person in a culture. Pain in any culture ought to be compassionately relieved where it can be with an interest in the welfare of the sufferers. But pain in the wild ought not to be relieved if and when it interrupts the ecosystemic processes on which the welfare of these animals depends.

Sometimes it seems that an environmental ethic takes us nearer than we wish toward a tragic view of life. Perhaps Jesus came that nature should not take its course, but we also have it on his authority that the birds of the air need not be anxious and that God notices the sparrows that fall. Jesus also notices that vultures gather over a carcass (Mt 24.28; Lk 17.37). The Bible may urge that an ox in a pit requires rescue, but it also counts among the manifold, wise works of God that "the high mountains are for the wild goats; the rocks are a refuge for the badgers.

. . . These all look to thee, to give them their food in due season" (Ps 104.18-27).

In God, animals are born free. "Who has let the wild ass go free? Who has loosed the bonds of the swift ass, to whom I have given the steppe for his home, and the salt land for his dwelling place? He scorns the tumult of the city; he hears not the shouts of the driver. He ranges the mountain as his pasture, and he searches after every green thing" (Jb 39.5-8). Letting wild animals "go free" provides a general orientation for the ethical treatment of wild animals; mercy or compassion do not. Beyond that, Christianity has no particular expertise in wildlife management, and many of the questions faced in environmental ethics have not been addressed by Christian thought.

## II. Plants

In Yosemite National Park for almost a century humans entertained themselves by driving through a tunnel cut in a giant sequoia. Two decades ago the Wawona tree, weakened by the cut, blew down in a storm. People said: Cut us another drive-through sequoia. The Yosemite environmental ethic, deepening over the years, said: No! You ought not to mutilate majestic sequoias for amusement. That seems right, but what reasons do we offer? Maybe it is best not to get too theological about this, and just to say that it is silly to cut drive-through sequoias, aesthetically more excellent for humans to appreciate sequoias for what they are. Or maybe there is something more theological here than we first think; there is really a sacrilege in insensitivity to the cathedral forests.

Trees might not seem something that we can be ethical about, not directly. Where people have a stake in their trees, the trees count because the people count them as fuel, timber, watershed, shade trees, scenery. What counts for people, counts morally. But there is more to it than that. How to count trees, or, collectively, forests, is a critical issue in environmental policy today. The larger issue is an appropriate respect for forests, not simply for what they are for people, but for what they are in themselves.

John Mumma, regional forester in charge of 15 national forests in Montana, northern Idaho, and parts of Washington and the Dakotas, was recently forced to resign for his refusal to cut as much timber as was ordered. His resignation provoked a Congressional investigation. "I am

in shock at what's happening on the national forests," he told Congress.<sup>1</sup> In November 1989, sixty-five U. S. Forest Service Supervisors complained to Federal Chief F. Dale Robertson that "The emphasis of national forest programs does not reflect the land stewardship values embodied in forest plans, Forest Service employees and the public."<sup>2</sup> Protesting especially the cutting of trees, this and related internal Forest Service memos received national attention on the ABC-TV news show "Prime Time Live."

The old-growth timber controversy is the principal public issue in the Pacific Northwest. Indeed, some environmentalists count the value of trees, especially the cathedral old-growth trees, so highly that they will spike these trees, lest they be cut. They are willing to risk civil disobedience, protesting that the forest service is itself disobeying the law, and citing as evidence the mounting dissension within the ranks of the Forest Service. Several thousand foresters have joined a protest organization, the Association of Forest Service Employees for Environmental Ethics. And the Society of American Foresters, by a three-to-one vote, has revised its canon of ethics, to include a land ethic. Foresters now say that an ethic "demonstrates our respect for the land."<sup>3</sup> The Society has issued a policy statement, an ethical statement, that sustainable forestry is not enough if that means only timber production; forestry must consider optimizing and conserving all the values carried by forests as natural ecosystems. That is, if you like, an ecosystem ethic, to which we will be turning, but it all began with the cutting of trees, and a growing conviction that what a people do to forests is a moral matter.

Is all this outside the province of Christian ethics? It can seem so; nothing about Christianity gives one any expertise in forestry, any more than elsewhere in botany or zoology. The skills ethics has forged for people hardly seem relevant. Trying to make trees moral objects seems strange. They do not suffer pains and pleasures, so we cannot be compassionate toward them. Trees are not valuers with preferences that can be satisfied or frustrated, so we cannot practice the golden rule on them. It seems odd to claim that trees need our sympathy, odd to ask

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<sup>1</sup>Paul Schneider, "When a Whistle Blows in the Forest. . ." *Audubon*, January/February 1992.

<sup>2</sup>The internal forest supervisor memos are printed in *High Country News* 22, no. 4 (26 February 1990): 10-11.

<sup>3</sup>Ray Craig, "Land Ethic Canon Proposal: A Report from the Task Force," *Journal of Forestry* 90, no. 8 (1992): 40-41.

<sup>4</sup>Society of American Foresters, *Sustaining Long-term Forest Health and Productivity* (Bethesda, MD: Society of American Foresters, 1993).

that we should consider their point of view. They do not need justice or fairness.

These are, we might say, just resource questions, about which Christians can say that resources should be justly and charitably used, and little more. We can say that there should be stewardship. The Society of American Foresters say, in their new code of ethics, "Stewardship of the land is the cornerstone of the forestry profession,"<sup>5</sup> and Christians entirely concur, because they believe in the stewardship of everything. But after that, they have nothing more to say about making this forest ethic operational.

Or is there more to be said? For religious persons have often thought that there is something sublime, even sacred about trees. "The groves were God's first temples."<sup>6</sup> "The trees of the Lord are watered abundantly; the cedars of Lebanon which he planted" (Ps 104.16). With forests, America is even more of a promised land than is Palestine. John Muir exclaimed, "The forests of America, however slighted by man, must have been a great delight to God; for they were the best he ever planted"<sup>7</sup> Such forests are a church as surely as a commodity. The forest is where trees piece the sky, like cathedral spires. Light filters down, as through stained glass. The forest canopy is lofty, over our heads. In common with churches, forests invite transcending the human world and experiencing a comprehensive, embracing realm.

Forests can serve as a more provocative, perennial sign of this than many of the traditional, often outworn, symbols devised by the churches. Such experiences Christians should welcome and seek to preserve. Muir continued, "The clearest way into the Universe is through a forest wilderness."<sup>8</sup> That, a Christian may say, is excessive. The clearest way into the Universe is through Jesus Christ. Still, Jesus Christ himself seems, at times, to have retreated into the wilderness when he wanted to get things clear.

Being among the archetypes, a forest is about as near to ultimacy as we can come in the natural world—a vast scene of sprouting, budding, flowering, fruiting, passing away, passing life on. The planet has produced forests wherever on the globe soil and climate permit, and has done so for many millions of years. Mountaintop experiences, the wind in the pines, solitude in a sequoia grove, autumn leaves, the forest vista—these generate experiences of "a motion and spirit that impels . .

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<sup>5</sup>Craig, "Land Ethic Canon Proposal," 40.

<sup>6</sup>William Cullen Bryant, *A Forest Hymn*, 1825.

<sup>7</sup>John Muir, *Our National Parks* (Boston: Houghton Mifflin, 1901), 331.

<sup>8</sup>Linnie Marsh Wolfe, ed., *John of the Mountains: The Unpublished Journals of John Muir* (Boston: Houghton-Mifflin, 1938), 313.

. and rolls through all things."<sup>9</sup> A forest wilderness is a sacred space. There Christians recognize God's creation, and others may find the Ultimate Reality or a Nature sacred in itself. A forest wilderness elicits cosmic questions, differently from town. Christians have a particular interest in preserving wild places as sanctuaries for religious experiences, both for Christians and others inspired there.

### III. Species

Some of these animals and plants in these forests are endangered species, and that forces us to a new level of ethical and theological challenge. When the United States Congress lamented the loss of species, Congress declared that species have "esthetic, ecological, educational, historical, recreational and scientific value to the Nation and its people."<sup>10</sup> Religious value is missing from this list. Perhaps Congress would have overstepped its authority to declare that species carry religious value. But for many Americans this is the most important value. Christians and Jews will add that these species are also of value to God. Congress could not say that. But defending the freedom of religion, guaranteed in the Constitution, Congress might well have insisted that the species of plants and animals on our landscape ought to be conserved because such life is of religious value to the Nation and its people.

Though God's name does not appear in the Endangered Species Act itself, it does occur in connection with the Act. The protection Congress authorized for species is quite strong, in principle at least. Interpreting the Act, the U. S. Supreme Court insisted "that Congress intended endangered species to be afforded the highest of priorities."<sup>11</sup> Since economic values are not among the listed criteria either but must sometimes be considered, Congress in 1978 amendments authorized a high-level, interagency committee to evaluate difficult cases. This committee may permit human development at the cost of extinction of species. In the legislation, this committee is given the rather nondescript name, "The Endangered Species Committee," but almost at once it was nicknamed "the God Committee." The name mixes jest with theological insight and reveals that religious value is implicitly lurking in the Act. Any who decide to destroy species unnaturally take, fearfully, the prerogative of God.

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<sup>9</sup> William Wordsworth, *Lines Composed a Few Miles above Tintern Abbey*, 1798.

<sup>10</sup> Endangered Species Act of 1973, sec. 2a. 87 Stat. 884.

<sup>11</sup> *TVA vs. Hill*, 437 U.S. 153 (1978), at 174.

In the practical conservation of biodiversity on landscapes, concerned with habitat, breeding populations, DDT in food chains, or minimum water flows to maintain fish species, it might first seem that God is the ultimate irrelevancy. In fact, when one is conserving life, ultimacy is always nearby. The practical urgency of on-the-ground conservation is based in a deeper respect for life. Extinction is forever; and, when danger is ultimate, absolutes become relevant. The motivation to save endangered species can and ought to be pragmatic, economic, political, and scientific; deeper down it is moral, philosophical, and religious. Or perhaps we should say that the first set of reasons is moral only for humanistic reasons; the second set of reasons extends moral concern into a reverence for nonhuman life based on intrinsic value found in such life for what it is in itself.

The Bible records the first Endangered Species Project— Noah and his ark! That story is quaint and archaic, as much parable as history, teaching how God wills for each species on Earth to continue, despite the disruptions introduced by humans. Although individual animals perish catastrophically, God has an "adequate concern and conservation" for species. On the Ark, the species come through. After the Flood, God re-establishes "the covenant which I make between me and you and every living creature that is with you, for all future generations" (Gn 9.12-13). Humans are to repopulate the earth, but not at threat to other species; rather, the bloodlines must be protected at threat of divine reckoning (Gn 9.1-7). The biblical authors had no concept of genetic species but used instead the vocabulary of bloodlines.

As with the treatment of animals before, we may first think that the endangered species question is easy, Noah settles that; we should not cause any species to go extinct.<sup>12</sup> But, once again, the going gets tough in actual decisions, and sensitivity to life at the level of species can sometimes make an environmental ethicist seem callous. San Clemente Island is far enough off the coast of California for endemic species to have evolved in the isolation there. The island also has a population of feral goats. After the passage of the Endangered Species Act, botanists resurveyed the island and found some additional populations of endangered plants. But goats do not much care whether they are eating endangered species. So the U.S. Fish and Wildlife Service and the U. S. Navy, which owns the island, planned to shoot thousands of feral goats

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<sup>12</sup> Noah knew nothing of natural extinction and respeciation over evolutionary time. Even the Endangered Species Act does not seek to prevent natural extinction, when species that are no longer adapted fits go extinct, to be replaced by other species that evolve as better fits in the changing environment.

to save three endangered plant species, *Malacothamnus clementinus*, *Castilleja grisea*, *Delphinium kinkiense*, of which the surviving individuals numbered only a few dozens,

Some goats were shot. Then the Fund for Animals took the case to court to stop the shooting, and the court allowed the Fund to live trap and relocate what animals they could. Relocated animals survive poorly, however. Trapping is difficult; the goats reproduce about as fast as trapped. So the shooting has continued. Even shooting the last of them has been difficult. Altogether about 14,000 live goats have been removed from the island and 15,000 shot.<sup>13</sup>

Is it inhumane to count plant species more than mammal lives, a few plants more than thousands of goats? An ethic of compassion and the Golden Rule may say that animals count but plants do not, because the goats can enjoy life and they suffer when shot, but the plants are insentient and do not feel anything at all. But perhaps we move to a new level of principle, where duties to species override duties to individuals. On Noah's ark, God did not seem much concerned with individuals, but rather greatly concerned for species. That principle holds even when the endangered species are plants. A population of plants, evolved as an adapted fit in an ecosystem, is of more value than a population of feral goats, who are misfits in their ecosystem. Remember that the lilies of the field have the glory of Solomon.

A top carnivore is missing from most of our American landscapes, and we are wondering whether we ought restore the grey wolf. One place the wolf does remain is in Minnesota, where there are about 1,200 wolves. That respects the integrity of this species in that ecosystem, which is what we ought to do. But there is a problem. There are also 12,000 livestock ranches scattered through the wolves' territory, or, to phrase it the other way around, the wolves are scattered through the properties of thousands of ranchers. That works surprisingly well, but each year problem wolves begin to kill livestock on forty to fifty of these ranches. Such wolves are trapped and killed. About thirty to forty wolves each year are killed in this mitigation.

Here it seems that if we are to have wolves, we must kill wolves. We ought to do both. This time we have to consider the interests of the ranchers, their cattle, and perhaps of those consumers who will eat the cows. But the integrity of the wolf population too is served by removing those animals who turn from their natural prey to domestic animals. Aldo Leopold wrote that in his trigger-happy youth he thought that the

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<sup>13</sup>Details from Jan Larson and Clark Winchell, Natural Resources Office, Naval Air Station, North Island, San Diego, California, 1984, 1989, 1991.

only good wolf was a dead wolf, until he shot one once and reached it in time "to watch a fierce green fire dying in her eyes."<sup>14</sup> Here in order to keep that fire going in the species, we have, sadly, to put it out in individuals who lose that wildness and turn to killing cattle. We ought to restore that fierce green gaze on our landscape, where and as we can, even if in the resulting confrontation of people and wildlife, we sometimes have to kill.

The Decalogue commandment says not to kill, but that has to do with murdering people. The wolf is by nature a killer; and, when it turns to killing cattle, must we not kill it in turn? So it seems that we want a killer on our landscapes, even though we have to regulate its killing. Sometimes in environmental ethics, there are no easy choices. But we are encouraged to think that God loves the predators too, because in the wilderness "the young lions roar for their prey, seeking their food from God" (Ps 104.21).

Now, too, we may refuse to let nature take its course. The Yellowstone ethicists let the bison drown, callous to its suffering; they let the blinded bighorns die. But in the spring of 1984 a sow grizzly and her three cubs walked across the ice of Yellowstone Lake to Frank Island, two miles from shore. They stayed several days to feast on two elk carcasses, when the ice bridge melted. Soon afterward, they were starving on an island too small to support them. These stranded bears would be left to starve—if nature took its course. The mother could swim to the mainland, but she would not without her cubs. This time the Yellowstone ethicists promptly rescued the grizzlies and released them on the mainland, in order to protect an endangered species. They were not rescuing individual bears so much as saving the species. They thought that humans had already and elsewhere imperiled the grizzly, and that they ought to save this form of life. A breeding mother and three cubs was a significant portion of the breeding population. The bears were not saved lest they suffer, but lest the species be imperiled.

Duties to wildlife are not simply at the level of individuals; they are also to species. Our human nature shapes us for culture, not a wild but an "unnatural" environment, that is, an environment where the creative evolutionary and ecological forces are superimposed by emergent, humane forces. Conscience evolves to generate that respect for persons without which there can be no high quality of human life. But when conscience turns to address the high quality of wild life, our human instincts and the imperatives of our ethical traditions need to be re-

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<sup>14</sup>Aldo Leopold, *A Sand County Almanac* (New York: Oxford University Press, 1968), 130.

thought. We have a duty to conserve all the wildness, species in their wild ecosystems, not just individual animal welfare.

An ethic here has to take the word *genesis* seriously, and that seems plausible when we talk of divine creation, but it can become difficult when this creation is wild nature. In the Hebrew stories, the "days" (events) of creation are a series of divine imperatives that empower Earth with vitality. "And God said, 'Let there be ...'" (Gn 1.2-3). "Let the earth put forth vegetation." "Let the earth bring forth living things according to their kinds" (Gn 1.11, 24). "Let the waters bring forth swarms of living creatures" (Gn 1.20). "Swarms" is, if you wish, the biblical word for biodiversity.

A prolific Earth generates teeming life, urged by God. The Spirit of God is brooding, animating the Earth, and Earth gives birth. As we would now say, Earth speciates. When Jesus looks out over the fields of Galilee, he recalls how "the earth produces of itself (Mk 4.28, Greek: "automatically") or spontaneously. God reviews this display of life, finds it "very good," and bids it continue. "Be fruitful and multiply and fill the waters in the seas, and let birds multiply on the earth" (Gn 1.22). In current scientific vocabulary, there is dispersal, conservation by survival over generations, and niche saturation up to carrying capacity. Adam's first task was to name this swarm of creatures, a project in taxonomy.

The Endangered Species Act and the God Committee are contemporary events, and it can be jarring to set beside them these archaic stories. But the stories are not only archaic in being couched in outmoded thought forms; they are archaic in that they are about aboriginal truths. The Noah story is an antiquated genre, but the Noah threat is imminent today and still lies at the foundations. The story is a myth teaching a perennial reverence for life. If there is a word of God here, lingering out of the primordial past, it is "Keep them alive with you" (Gn 6.19).

Indeed, these primitive stories sometimes exceed the recent legislation in the depths of their insights. Noah is not told to save just those species that are of "esthetic, ecological, educational, historical, recreational and scientific value" to people. He is commanded to save them all. These swarms of species are often useful to humans, and on the Ark clean species were given more protection than others. But Noah was not simply conserving global stock. The Noah story teaches sensitivity to forms of life and the biological and theological forces producing them. What is required is not human prudence but principled responsibility to the biospheric Earth, to God.

Today, preservation of species is routinely defended in terms of medical, agricultural, and industrial benefits. Other species may be indirectly useful for the resilience and stability they provide in ecosystems. High quality human life requires a high diversity of species. But

such humanistic justifications, although correct and required as part of endangered species policy, fall short of Noah's environmental ethics. These humanistic reasons are relevant, but they do not value these species for what they are in themselves, under God. These reasons are inadequate for either Hebrew or Christian faith, neither of which is simply humanistic about species. The value of species, though intrinsic, need not be absolute, of course; there is ample biblical justification for humans to make responsible uses of plants and animals, capturing their values in pursuit of their cultural goods. Still, facing the next century, turning the millennium, there is growing conviction among theologians that theology has been too anthropocentric. Valuable though humans may be, the nonhuman world too is a vital part of Earth's story,

Biology and theology are not always easy disciplines to join. One conviction they do share is that the Earth is prolific. Seen from the side of biology, this is called speciation, biodiversity, selective pressures for adapted fit, maximizing offspring in the next generation, niche diversification, species packing, and carrying capacity. Seen from the side of theology this trend toward diversity is a good thing, a godly thing. This fertility is sacred. Endangered species raise the "God" question because they are one place we come near the ultimacy in biological life. This genesis is, in biological perspective, "of itself," spontaneous, autonomous; and biologists find nature to be prolific, even before the God question is raised. Afterward, theologians wish to add that in such a prolific world, explanations may not be over until one detects God in, with, and under it all.

#### IV. Ecosystems

Biblical faith began with a land ethic, a covenanted promised land; but sometimes in the subsequent centuries both Jews and Christians have thought that their faith superseded any geography. These were faiths for any people any place, universal faiths true all over the planet, indeed all over the universe, should there prove to be extraterrestrial life. But another way to interpret this is that all peoples dwell on promised lands, that is, lands that are gifts of God and that ought to be used with justice and charity. We sing, "America the Beautiful." The American landscape with its purple mountains' majesties, fruited plains, fauna and flora from sea to shining sea is divinely created, no less than is Canaan front the Negev to Mount Hermon. Exodus into a Promised Land has been a repeated theme wherever Judaism and Christianity have gone. Stewardship of the land, say the foresters, is an ethical issue; and Christians can readily agree.

But that, too, turns out, as with animals, plants, and species before, to be more challenging than first appears. Land use patterns as they affect the health and integrity of ecosystems are among the most intense environmental concerns that we now face, as we have already illustrated with the controversies over forests. Biodiversity depends on ecosystem integrity. But do we find integrity on our culturally settled landscape? National forests include about 14% of the American continent; they are public lands, sometimes with impressive wildlife, but, being lands of multiple uses (multiple abuses!), they often have degenerate faunas and floras. We have only scraps of undisturbed once-common ecosystems, such as hemlock forests, or tall grass prairies, and no chestnut forests at all. Acid rain is damaging the Adirondacks and the Great Smokies.

Hardly a stretch of landscape in the nation is unimpoverished of its native species—otters and peregrine falcons, wolves and bison. The higher up the species on the ladder of creation (the ecosystemic trophic pyramid), the more likely this is so. Americans regarded it as their manifest destiny to conquer the wilderness, and with this came profligate wasting of resources and prodigal slaughter of wildlife. The big predators have been decimated; the bison roam the plains no more. The passenger pigeon is gone; bluebirds and many warblers are vanishing; we face a silent spring.

There are two tensions here: one is whether humans are using their land resources intelligently, retaining enough ecosystem health not to degrade the resource; and the other is whether humans ought to manage land as nothing but resource for themselves and neighbors, or ought rather to see the integrity of ecosystems as a moral issue, loving the whole biotic community. The one view is, historically, that of Gifford Pinchot, who founded the U. S. Forest Service. The other view is, historically, that of John Muir, recently judged, in a poll, to be the most influential Californian ever. He one view, on the contemporary scene, is that of the wise use movement, which seeks to maximize the human goods obtainable from the landscape; the other is that of the Sierra Club, continuing the legacy of its founder, which wishes to bring humans into harmony with a world that is valuable penultimately as a resource because it is ultimately valuable for what it is in itself.

Consider wilderness designation. About 96% of the contiguous United States is developed, farmed, grazed, timbered, designated for multiple use. Only about 2% has been designated as wilderness; another 2% might be suitable for wilderness or semiwild status—cut-over forests that have reverted to the wild or areas as yet little developed. The wise use people say absolutely no more wilderness, and they would like to redesignate and open up much that we have already designated; the environmentalists press hard for more wilderness. The wise use people

say that the Endangered Species Act, if not repealed, should be revised to decide whether to save species on an economic cost-benefit calculus. Environmentalists want the Act strengthened; they want ecosystem conservation as the basis of endangered species preservation.

Does Christianity have much to say about this? Since Palestine was chiefly treasured as a land flowing with milk and honey, does that mean that what Christians want is ecosystem management for multiple uses, maximized to enrich the human condition—more milk and more honey? But then again, Christians are nowhere taught to be maximal consumers; they ought to know when to say, "Enough!" and to become interested rather in conserving the natural values on the landscape, optimizing the mix of values in both nature and culture. The intrinsic values in forests are not absolute; there is ample biblical justification for using forests to meet human needs. But when 96% of a landscape has been put to work gaining milk, honey, timber, water, range, minerals, and other multiple uses, ought we not increasingly and even absolutely to refuse to make human resources out of every last acre?

The natural world inescapably surrounds us, wherever we reside and work, and yet the built environment, necessary for culture, also is increasingly difficult to escape. Culture is and ought to be superimposed on the landscape, but not so as to extinguish the integrity of creation. This duty arises because of human welfare. Humans need, in differing degrees, elements of the natural to make and keep life human. Life in completely artificial environments, without options for experiencing natural environments, is undesirable. A society attuned to artifact forgets creation. Life without access to the divine creation is ungodly. And yet we can go too far in thinking that we want land health only for our human excellence.

The Catholic Bishops urge us: "The web of life is one. Our mistreatment of the natural world diminishes our own dignity and sacredness, not only because we are destroying resources that future generations of humans need, but because we are engaging in actions that contradict what it means to be human."<sup>15</sup> Yes, that seems right; that seems humane. But wait a minute! I make a large donation to the Fund for the Whales and another to the Nature Conservancy; and, being asked what motivated my charity, I answer: I wish to augment my dignity! I am affirming what it means to be human! It would seem that Christians, caring for creation, ought to be able to do better. They might, instead,

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<sup>15</sup> "Roman Catholic Bishops, "Renewing the Earth: An Invitation to Reflection and Action on the Environment in the Light of Catholic Social Teaching," *Origins: CNS Documentary Service* 21(1991):426.

have concern for the integrity of creation, and forget their self-image and dignity. Doesn't Christian ethics worry about those who make charitable gifts only in order to cultivate their excellence of character? In terms of appreciating the intrinsic values in nature, such conservationists could still be small of spirit, with a long way to go.

Another problem is that ecosystems can seem ungodly, or at least that the creative processes there can be challenging. For nature can seem chaotic and disordered. Giant forest fires raged over Yellowstone National park in the summer of 1988, consuming nearly a million acres, despite the efforts of a thousand fire fighters. By far the largest fires ever known in the park, the fires seemed a disaster. And we had put out fires for over a century. But now there was a new ethic, which enjoined: Let nature take its course. Let it burn! So the fires were not fought at first. In midsummer national authorities switched their ethics again, overrode that policy and ordered the fires put out.

Even then, weeks later, fires continued to burn, partly because they were too big to control, but partly too because Yellowstone personnel did not altogether want the fires put out. Despite the evident destruction of trees, shrubs, and wildlife, they believe that fires are a good thing. Fires reset succession, release nutrients, recycle materials, renew the biotic community. Nearby, in the Teton wilderness, a storm blew down 15,000 acres of trees, and some proposed that the area be de-classified as wilderness for commercial salvage of the timber. But a similar environmental ethics said: No, let it rot.

Let it burn! Let it rot! At first these do not seem to be any more Christian than: Let it suffer. But maybe there is something here that Christians can appreciate after all, for they are not unfamiliar with life destroyed and life regenerated. To the contrary, that theme is right at the center of Christian faith. There are sorts of creation that cannot occur without death, and these include the highest created goods. Death can be meaningfully put into the biological processes as a necessary counterpart to the advancing of life. Something is always dying, and something is always living on. For all the struggle, violence, and transition, there is abiding value.

"Conserved" is the biological word here, and we ought to conserve in nature those processes that conserve life. These are radical regenerative processes. For we must be careful here. It is not simply the experience of divine design, of architectural perfection, that has generated the Christian hypothesis of God. Experiences of the power of survival, of new life rising out of the old, of the transformative character of suffering, of good resurrected out of evil, are even more forcefully those for which the theory of God has come to provide the most plausible hypothesis. That governs the Christian ethic, an ethic for the most part

directed toward human coping in the world, but an ethic also for understanding the creative processes that conserve and regenerate life throughout the natural world.

From this perspective, Christians can join with Aldo Leopold and his land ethic, "A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise."<sup>16</sup> That does not put human dignity or wise use first, though it can hardly result in undignified humans or unwise use. Those who wish to reside in a promised land must promise to preserve its integrity, stability, and beauty. "That land as a community is the basic concept of ecology, but that land is to be loved and respected is an extension of ethics."<sup>17</sup> If so, we cannot inherit our promised lands until we extend Christian ethics into ecology. "The land which you are going over to possess is a land of hills and valleys, which drinks water by the rain from heaven, a land which the Lord your God cares for; the eyes of the Lord your God are always upon it, from the beginning of the year to the end of the year" (Dt 11.11-12).

## V. Earth

Bible writers, though in a promised land, hardly knew they lived on Earth; they did not know earth was Earth. The twentieth century has been the century of seeing Earth whole, the home planet. Viewing Earthrise from the moon, Edgar Mitchell, was entranced: "Suddenly from behind the rim of the moon, in long-slow motion moments of immense majesty, there emerges a sparkling blue and white jewel, a light, delicate sky-blue sphere laced with slowly swirling veils of white, rising gradually like a small pearl in a thick sea of black mystery. It takes more than a moment to fully realize this is Earth . . . home." Mitchell continued, "My view of our planet was a glimpse of divinity."<sup>18</sup> The UN Secretary-General, Boutros Boutros-Ghali, closed the Earth Summit with an imperative: "The Spirit of Rio must create a new mode of civic conduct. It is not enough for man to love his neighbour; he must also learn to love his world."<sup>19</sup>

That finds value in Earth as a precious place, and enjoins loving that place with the moral intensity with which we love neighbors, perhaps

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<sup>16</sup> Leopold, *Sand County Almanac*, 224-25.

<sup>17</sup> *Ibid.*, foreword.

<sup>18</sup> Edgar Mitchell, quoted in Kevin W. Kelley, ed., *The Home Planet* (Reading, MA: Addison-Wesley, 1988), at photographs 42-45.

<sup>19</sup> Quoted in a United Nations Conference on Environment and Development (UNCED) summary, *Final Meeting and Round-up of Conference*, June 14, 1992, p. 1.

even God. Neither the astronaut nor the Secretary-General is thinking merely anthropocentrically, of Earth as a big resource to be exploited for human needs; rather Earth is a precious thing in itself because it is home for us all; Earth is to be loved, as we do a neighbor, for an intrinsic integrity, which generates this world community in which we reside. In an environmental ethics, our argument and our duty is not complete until we have moved to the global level, to an Earth ethics. The center of focus is Earth, the planet.

But valuing the whole Earth and responsibilities to it are unfamiliar and need philosophical analysis. At first appearance, this can seem to be godly enough; but then again, we may seem to be going to extremes. Earth is not divinity, nor is dirt to be loved like God and neighbor. That is often one of our fears about creation spirituality; it slips over into vague pantheism and uncritical naturalism; we begin romantically and naively to worship Nature and not intelligently and diligently to worship God. Is there a legitimate and commanding duty to Earth?

This has been the century in which environmental issues have become global. Anyone who has looked at a graph of the escalating human population growth realizes that humans threaten the planet, and if one couples population growth with escalating consumption, only the blind can deny that the planet is headed for crisis. We do not now have sustainable development, either in First or Third World, North or South. The unity and community of the home planet is our global responsibility, and we live on what, in the light of our recently gained human powers, is a fragile planet. The view from space symbolizes all this. The distance lends enchantment, brings us home again. The distance helps us to get real. We get put in our place. We need to form ethical and value judgments at the appropriate level. Earlier the challenge was to take into our ethical concern such things as persons, animals, plants, species, ecosystems; but environmental ethics is not over until we have risen to the planetary level. Earth is really the relevant survival unit.

Ought implies can, and we do not construct an ethics for things that lie outside our powers. Ethics is sometimes a question of scale. The late-coming, moral species, *Homo sapiens*, has still more lately gained startling powers for the rebuilding and modification, including the degradation, of this home planet. That does put ethics on a new scale. The value issues are so bigscale that the current events have to be interpreted as a fundamental contextual change altering the critical determinants of the history of the planet.

Only in the last century, Darwin's century more or less, have we learned the depth of historical change on this planet, life continuing over billions of years. Now, facing the next century, we humans have the understanding and the power to alter the history of the planet on global

ecological scales. The future cannot be like the past, neither the next ten thousand years like the past ten thousand, nor the next two thousand like the last two thousand (A.D.) years, nor even the next five hundred years like the last five hundred years, since Columbus found the new world. Indeed, on most of our continent, the development pace in the next century cannot be like that of the last. All this brings urgent new duties.

We worried throughout most of this century, the first century of great world wars, that humans would destroy themselves in interhuman conflict. Fortunately, that fear has subsided. Unfortunately, it is rapidly being replaced by a new one. The worry for the next century is that humans may destroy their planet and themselves with it. We are turning a millennium. The challenge of the last millennium has been to pass from the medieval to the modern world, building modern cultures and nations, an explosion of cultural development. The challenge of the next millennium is to contain those cultures within the carrying capacity of the larger community of life on our home planet, sometimes said to be the challenge of a postmodern world. On our present heading, much of the integrity of the natural world will be destroyed within the next century.

If we humans are true to our species epithet, "the wise species" needs to behave with appropriate respect for life. That will involve an interhuman ethics. It will involve an interspecific ethics, where the only moral species discovers that all the others, though not moral agents, are morally considerable. Also, finally, most ultimately, it will involve an Earth ethics, one that discovers a global sense of obligation to this whole inhabited planet, the only such biosphere we know.

Christian ethics has been almost entirely interhuman ethics, persons finding a way to relate morally to other persons—loving our neighbors. Ethics seeks to find a satisfactory fit for humans in their communities, and this has meant that ethics has often dwelt on justice, fairness, love, forgiveness, rights, peace, an ethic troubled about personal relations. But ethics too is now anxious about the troubled planet. Can we have duties *concerning* the Earth, even duties *to* the Earth? Earth is, after all, just earth. Many will think that it is absurd to think we can have duties to dirt. Earth is, in a way, a big rockpile like the moon, only one on which the rocks are watered and illuminated in such way that they support life. So maybe it is really the life we value and not the Earth, except as instrumental to life. We do not have duties to rocks, air, ocean, dirt, or Earth; we have duties to people, or living things. We must not confuse duties to the home with duties to the inhabitants,

But what if we see this home biosphere as the sphere of divinity? Consider all the complexity and diversity, integrity, richness, natural history and cultural history—the whole storied natural and cultural history of our planet. Really, the story is little short of a series of "miracles,"

wondrous, fortuitous events, unfolding of potential; and when Earth's most complex product, *Homo sapiens*, becomes intelligent enough to reflect over this cosmic wonderland, everyone is left stuttering about the mixtures of accident and necessity out of which we have evolved. Nobody has much doubt that this is a precious place, a pearl in a sea of black mystery. For Christians the black mystery will be numinous and signal transcendence. We reach a scale question again. On an everyday scale, earth, dirt, seems to be passive, inert, an unsuitable object of moral concern. But on a global scale? Earth could be the ultimate object of duty, short of God. Now we do begin to get absolute about natural values, about as absolute as we can ever get on Earth. For what absolutely must not happen is that the Earth be destroyed by human hands.

The scale changes nothing, a critic may protest, the changes are only quantitative. Earth too is a big rockpile, only one that happens to support life. It is no doubt precious as a means of life support, but it is not precious in itself. To add a new imperative, loving Earth, to the classical ones of loving neighbor and God, is to make a category mistake. Neighbors and God are persons, ends in themselves, who respond to love. God is Absolute. But Earth is just earth, dirt. Earth is not some proper-named person who can respond, not some Absolute to worship. There is nobody there in a planet. There is not even the objective vitality of an organism, or the genetic transmission of a species line. Earth is not even an ecosystem, strictly speaking; it is a loose collection of myriads of ecosystems. So we must be talking loosely, perhaps poetically, or romantically of loving Earth. Earth is a "mere thing," a big thing, a special thing for those who happen to live on it, but still a thing, and not appropriate as an object of moral concern, much less as an object of absolute duty.

We might say that this is praising not so much the dirt as what God can make out of dirt. But another way of looking at this is that it is all dirt, only we find revealed what dirt can do when it is self-organizing under suitable conditions with water and solar illumination. That is pretty spectacular dirt. We can, if we insist on being anthropocentrists, say that it is all valueless except as our human resource, though quite valuable in that respect. But we will not be valuing Earth objectively until we appreciate this marvelous natural history. This really is a superb planet. In that light, moving from earth to Earth, duties to Earth do not seem like a *reductio ad absurdum* of duties at all; to the contrary, a duty to Earth is the most important duty of all. The valuable Earth is absolutely fundamental.

At this scale of vision, if we ask what is principally to be protected, the value of life arising as a creative process on Earth seems a better

description than Earth as a human resource, and a more comprehensive category. Humans who see nature only as resource for their human-development are not yet true to their Earth. Human "responsibility" on Earth is as good a word as human "dominion" over Earth, indeed a better one, for it captures what dominion originally meant in the famous Genesis charge to Adam and Eve, or what it ought to mean, a stewardship or trusteeship over something entrusted into one's care, the prolific Earth with its swarms of creatures brought forth under divine inspiration of such dirt and found to be very good.

Land is not where we *make* a living; it *is* where we live, and this can be seen if we enlarge the scope from earth to Earth, not just where we *make* a living; it *is* where we live. Our responsibility to Earth might be thought the most remote of our responsibilities; it seems so grandiose and vague beside our concrete responsibilities to our children or next door neighbors. But not so: the other way round, it is the most fundamental, the most comprehensive of our responsibilities. Though foreshadowed in the past by the sense of belonging that many peoples have had on their landscapes, loyalty to the planet is the newest demand in ethics, a new possibility that could also prove the highest level of duty.

## VI. Nature and Grace

So a task of Christian ethics is to discover again what it means to say that God so loved this world that God sent a son to come where he already was, to save it, and what kind of Christian conduct in the world this entails. In a planetary, environmental age, this requires combining nature and grace at new levels of insight and intensity. Nature is grace, whatever more grace may also be. The geophysical and biological laws, the evolutionary and ecological history, the creativity within the natural system we inherit, and the values, these generate, are the ground of our being, not just the ground under our feet. This is the Earth in which we live and move and have our being and we owe this Earth system the highest allegiance of which we are capable, under God, in whom also we live and move and have our being.

Every animal, every plant has to seek resources, but life persists because it is provided for in the system. Earth is a kind of providing ground. Life is a struggle, which, seen from an earthy side, can seem to be indifference and chance, but seen from a godward side, is divine imperative and creativity. Each species is a bit of brilliance, a bit of endurance, a moment of truth, animated, spirited inventiveness. The swarms of creatures are not so much an ungodly jungle as a garden Earth. Design is not the right word; it is a word borrowed from mechanics and their machines, watchmakers and their clocks. An

organism is not a machine, nor a clock. Genesis is the word we want; it is a word with "genes" in it, with the gift of autonomy and self-creation. Organisms must live story lines, and that epic is life lived on in the midst of its perpetual perishing, life arriving and struggling through to something higher. That Earth story has continued for several billion years; such an Earthen providing ground is, in the theological perspective, providential.

Ultimately, there is a kind of creativity in nature demanding either that we spell nature with a capital N, or pass beyond nature to nature's God. Biologists today are not inclined, nor should they be as biologists, to look for explanations in supernature, but biologists nevertheless find a nature that is super! Superb! Science teaches us to eliminate from nature any suggestions of teleology, but it is not so easy for science to talk us out of genesis. What has managed to happen on Earth is startling by any criteria. Biologists may doubt whether there is a Creator, but no biologist can doubt genesis. Life is a kind of gift, and whatever we may think of nature elsewhere in the universe, earthen nature is right for life.

The nature that is grace is also cruciform. Life is a table prepared in the midst of our enemies, green pastures in the valley of the shadow of death. For Christianity seeks to draw the harshness of nature into the concept of God, as it seeks by a doctrine of providence to draw all affliction into the divine will. Nature is intelligible, gracious, superb, a wonderland. But the world is not a paradise of hedonistic ease, rather the secret of life is that it is a passion play. Things perish in tragedy. The religions knew that full well, before biology arose to reconfirm it. But things perish with a passing over in which the sacrificed individual flows in the river of life." As we said when beginning, sometimes it seems that an environmental ethics takes us nearer than we wish toward a tragic view of life.

The enigmatic symbol of this is the cross, a symbol Christians adopt for God, and for an extrahistorical miracle in the atonement of Christ, but one which, more than they have blown, is a parable of all natural and cultural history. There can be little doubt that life has flourished on Earth. The Bible writers experienced that exuberance of life, and biology since has expanded and further justified this claim. But even in the Garden Earth life has to be redeemed in the midst of its perpetual perishing. The Garden Earth forebodes the Garden of Gethsemane. Creation is cruciform.

When J. B. S. Haldane found himself in conversation with some theologians and was asked whether he had concluded anything about the character of God from his long studies in biology, he replied that God had an inordinate fondness for beetles. God must have loved beetles, he made so many of them. But species counts are only one indication of

diversity, and perhaps the fuller response is that God must have loved life, God animated such a prolific Earth. Haldane went on to say that the marks of biological nature were its "beauty," "tragedy," and "inexhaustible queerness."<sup>20</sup>

This beauty approaches the sublime; the tragedy is perpetually redeemed with the renewal of life, and the inexhaustible queerness recomposes as the numinous. If anything at all on Earth is sacred, it must be this entralling creativity that characterizes our home planet. If anywhere, here is the brooding Spirit of God. If there is any holy ground, any land of promise, this promising Earth is it.

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<sup>20</sup> J. B. S. Haldane, *The Causes of Evolution* (Ithaca: Cornell University Press, 1932, 1966), 167-169.