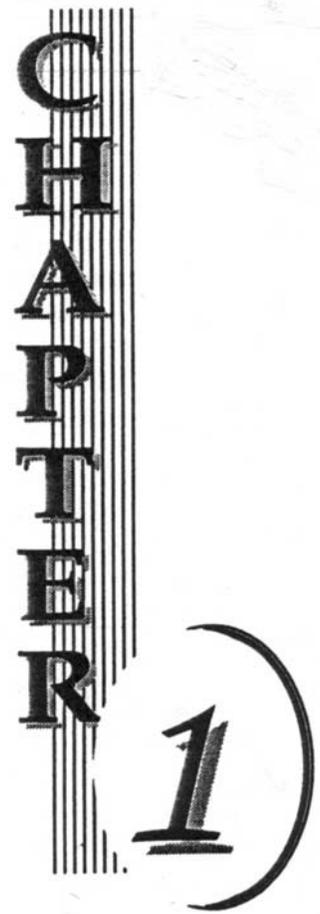


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NATURE, SPIRIT, AND LANDSCAPE MANAGEMENT

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Nature, Science, and Spirit

Both the words "nature" and "spirit" are complex with tapestries of meaning. Etymologically, "nature" goes back to a Greek and Latin root, *gene* (*g)naci, natus*, to give birth, to generate. The word "spirit," from the Latin, *spiritus*, contains the root idea of "breath," with parallels in both the Greek and Hebrew languages, naming the unseen air that inspired life. In their origins nature and spirit are surprisingly similar, nature being the creative, generative powers on Earth, spirit being the animating principle that raised life from the ground. Thus, in the Hebrew scriptures, the Spirit is the giver of life, animating the dust and generating the Earth and its swarms of creatures. Early peoples, understandably, found this creativity sacred; if anything at all is to be sacred, surely this fundamental vitality at the ground of our being must be sacred.

Modern Western peoples with a science-based world-view have been inclined to contrast nature and spirit. Since the Enlightenment, aided by a Cartesian dualism of mind and matter, and endorsed by the successes of physics, astronomy, chemistry, geology, meteorology and such physical sciences, the concept of nature has been dominantly

mechanistic; that is, spiritless. Nature works like a clock, a machine. Nature is matter in motion, energetic matter, a realm of objective causal networks, value free in itself. Humans, by contrast, are inward with psychologically felt experience, self-conscious awareness, value-driven preferences, with what philosophers call *Existenz*; what theologians call spirit. Humans have minds that operate on matter; humans have souls separate from their bodies.

Biology, as well as physics, is a science, and it too has depopulated the world of spirits. We do not live in an enchanted world; the phenomena are not the work of fairies, angels, and demons. (That disenchanting of the world was already begun by the Western monotheist traditions for whom the natural world was sacred creation but not full of particular spirits.) There is no entelechy, no spooky life force in organisms; they are made of ordinary elements, ordinary chemicals, organized in biochemical processes. Biology is a causal science; hence the successes of molecular and evolutionary biology—the secret of life is in the DNA. In genetic variations on which natural selection operates, producing the



myriad species over the millennia. Forests are not haunted; they are causal systems determined by natural processes which humans can, if they wish, learn about and manage as natural resources. Such biology can banish spirit from nature allowing it only, if at all, in human life.

But there is another mood in biology, never too comfortable with the phenomenon of life viewed reductively as so much clockwork—as nothing but matter in motion. Perhaps nature in the heavens has been reduced to celestial mechanics, but nature on Earth is a different story. Earth is the only planet with life, so far as we know, and the story of matter here has been animated, often spectacular. Biology is a historical science; DNA codes this earthbound vitality that emerges and develops over the millennia—the generation of the swarms of creatures, resulting at length in humans with their remarkable minds, hands, and spirits. So biologists are not always comfortable with the merely physical explanations; life seems more than physics and chemistry, though it requires that. There is a vitality, animation, spiritedness in living beings that makes life more than its precursors in the nonlife sciences.

Biology, too, is a natural science, and the explanations in biology, though they advance beyond those in physics, remain natural. But to a person pondering this spirited behavior of matter such explanations can seem right as far as they go, but not all that needs to be said. The story is of the steady evolution of more out of less, of the persistence of life in the midst of its perpetual perishing, and, in the end, of the evolution of spirit, of our spirits, which, today, we have to reckon with. The assembly is of materials, complexity out of simplicity, but there comes with it autonomous life out of dead matter, biofunction out of nonfunctional antecedents, and, with sufficient neural organization subjectivity or felt experience arises out of objectivity or mere things. Once there was a world with only matter and energy, but later there appeared within it information centers, and later still, incarnate subjects. Molecules, trillions of them, spin around in complicated ways and generate the unified, centrally focused experience of mind.

Science is the most recent and sophisticated discipline for studying the secular, empirical world. And it is often thought that science—whether physics, astronomy, geology, chemistry, or biology—chases out the sacred, but this is proving to be a superficial impression. Ernst Mayr, one of the most eminent living

biologists, says, "Virtually all biologists are religious, in the deeper sense of this word, even though it may be a religion without revelation. . . . The unknown and maybe unknowable instills in us a sense of humility and awe" (Mayr, 1982, p. 81). In that sense, what impressed the ancients is still impressive after biological science—the rising of life from dust, its inspiration. Man and woman arising from all the intermediate steps (trilobites, dinosaurs, primates) from the maternal Earth is not less impressive, rather more so, than Aphrodite rising from the seas. We moderns find ourselves asking again whether the phenomena of natural history are a response to the brooding winds of the Spirit moving over the face of these earthly waters. The phenomena could be revealing the noumena, something deep and ultimate in, with, and under the passing appearances.

Biologists are "religious in the deeper sense of the word," claims Mayr (1982), and that prompts a closer look at the word "religion," a word with an impressive, if checkered, history. The Latin root, *religio*, contains two elements *re-* and *ligare*,¹ with the idea of binding, seen in the English word "ligament," or in "obligation." The *re-* intensifies the binding; religion is that to which we are most deeply committed. "Religion is ultimate concern," insisted the famous theologian Paul Tillich, in a widely accepted definition; "it is the state of being grasped by something unconditional, holy, absolute" (Tillich, 1957, p. 59). Religion, concluded Rudolf Otto in a classic study, is "the sense of the holy" (Otto, [1923] 1958). "One's religion," according to Frederick Ferré, in a memorable address to the American Academy of Religion, "is one's way of valuing most intensively and comprehensively" (Ferré, 1970). The naturalist philosopher John Dewey, found that "whatever introduces genuine perspective is religious" (Dewey, 1934, p. 24).¹ One's religion is one's governing world-view when this reaches the dimension of depth, when it encounters the sacred, what is sometimes called the numi-

¹ Religion is complex, and there are also many pejorative definitions of religion, loaded with the users' dislikes. The Jewish theologian Martin Buber said, "I must confess that I don't like religion very much, and I am very glad that in the Bible the word is not to be found" (quoted in Smith, 1967, p. 33). The Protestant theologian Karl Barth added that religion is the action of those "who have fallen out of their relationship with God." For this reason, he claimed, "Religion must die. . . . In God we are rid of it" (Barth, 1933, pp. 246, 248). The protest is often against the institutional, dogmatic, intolerant dimensions of religion. James Leuba collected 47 classic definitions of religion (Leuba, 1912).



nous. The conviction arises that the phenomena require deeper explanation in the noumena; the explanations of who humans are mid where they are, and of the meaning in life do not lie on the surface of things, but have to be penetrated to discover a presence, a power, in, with, and under everyday, empirical experiences.

Religious persons have often referred to this sense of something beyond the secular, or everyday order, as the "supernatural," and so religion, some think, has conveyed commitment to the supernatural, to, in polytheist traditions, gods, or, in the monotheist traditions, God, or to other ultimates such as Brahma or nirvana. With the rise of science, the contrast between the natural and the supernatural becomes more intense, with science appealing to a causal order, typically mechanistically conceived, and said to be natural, and religion appealing to a divine presence, said to be supernatural. Since there is no "spirit" in mechanism, "spirit"—often called "soul"—was typically thought to be supernatural, both the human "spirit" and the cosmic, divine "Spirit." That, too, produces a contrast between nature and spirit and now it may be said that religion differs from science, in that science takes all things to be natural, but religion believes in the supernatural, something unseen and transcendent that perfuses, or permeates, the empirical, natural order. Mayr (1982), however, while not believing in the supernatural, finds nature itself to be mysterious; he encounters the genesis of something out of nothing, of life out of matter and energy with awe and humility. He finds in nature that he sees as a biologist something before which he is reverent.

Mayr's (1982) religion in the deeper sense is also meant to leave institutional religion and denominationalism behind. Religions, as convictions about what is ultimately valuable, have needed to be passed from generation to generation; they are convictions about which people have wished to act in concert in their communities. Hence religions have become social forces, carriers of culture and institutions. Religions, as social forces, have promulgated creeds, sought converts, preached, and taught. Religions, as carriers of culture, have built churches, temples, ordained priests and clergy, organized communities with their scriptures, and have authorities and financial budgets. Religions as institutions, have conducted persecutions, en-

dorsed wars, sent out missionaries, and the like. But in the confrontation of persons with nature, this aspect of religion is not in central focus.

One needs to notice that persons never confront nature except as they do so with cultural eye-glasses. People see nature through world-views that are supplied to them by these social institutions which include religion, philosophy, science, politics, economics, and art. Still, people confront nature, to some extent at least, as a world other than culture, as primordial nature; and what are people to make of it? A fundamental answer is that nature generates religious experiences in this deeper sense. If land managers wish to bypass the word "religion," owing to its institutional, denominational, and cultural dimensions, nature nevertheless generates "spiritual" experiences. One may find oneself, as a spirit, wondering about this inspirited inventiveness of nature. One may find oneself in a mood of reverence.

Of late, astronomers and the physicists themselves have been impressed by how the universe is well-organized (despite its increasing disorganization over time). The world, according to the recently prominent anthropic principle, is a fine-tuned universe, and was destined to produce life right from the start twenty billion years ago. So cosmological nature, even if one still thinks of nature as energetic matter in motion, can seem to have spirit among its possibilities (Barrow and Tipler, 1986; Davies, 1983; Leslie, 1989). Many, perhaps even most, physicists today think that cosmology is compatible with some kind of monotheism. Victor Weisskopf (1983) is explicit:

The origin of the universe can be talked about not only in scientific term, but also in poetic and spiritual language, an approach that is complementary to the scientific one. Indeed, the Judeo-Christian tradition describes the beginning of the world in a way that is surprisingly similar to the scientific model (p. 480)

Whatever one makes of astronomical nature, in biological nature on Earth there arises the life that, experienced and reflected on over the centuries, has so persistently seemed sacred, something mysterious, an animation otherwise as yet unknown in the universe. In organisms, there is organization based on a principle radically different from anything found in merely geophysical or geochemical nature:



accumulating information storage localized in the species lines, transmitted over the millennia, spreading around the globe, increasing in diversity and complexity. Superimposed on the background physical organization of the universe, superimposed on the background increase of entropy, there appears more organization than ever before by many hundreds of orders of magnitude. The secret of it all, the biologists say, is these coding molecules, the DNA that "knows how" to organize matter in these spectacular ways. The result is the difference between the Earth and the moon.

Molecular biologists are providing a naturalistic account of all this synthesis of life in increasing detail. There remains yet much to be known. But what then? After the scientific descriptions are done, is that all there is to be said? Photosynthesis and the trophic pyramids in ecosystems have been explained; has life been explained away? Once, in ancient Israel, Moses thought that the burning bush, not consumed, was a miracle. Modern people hardly believe any more in that sort of supernatural miracle; science has made such stories incredible. But what has it left instead? A self-organizing nature that, over the millennia, organizes itself into photosynthesis that drives a synthesis of higher life forms, supporting trophic pyramids in ecosystems with millions of species, continuing for millennia—life as a strange fire that outlasts the sticks that feed it. This is hardly a phenomenon less marvelous even if, after bioscience, one no longer wants to say that it is "supernaturally" miraculous.

Indeed, in the original sense of "miracle"—a wondrous event, without regard to the question whether it is natural or supernatural—photosynthesis and the life it supports is the secular equivalent of the burning bush. The bush that Moses watched in the wilderness was an individual in a species line that had perpetuated itself for millennia, coping by the coding in its DNA, fueled by the sun, using photosynthesis, and surviving without being consumed. To go back to the miracle that Moses saw, a bush that burned briefly without being consumed would be to return to something several orders of magnitude less spectacular. The bigger miracle, even though one knows some of the steps by which this genesis operates, requires more, not less reverence.

After a survey of evolutionary natural history Loren Eiseley (1957) concluded:

I would say, that if 'dead' matter has reared up this curious landscape of fiddling crickets, song sparrows, and wondering men, it must be plain even to the most devoted materialist that the matter of which he speaks contains amazing, if not dreadful powers, and may not impossibly be ... but one mask of many worn by the Great Face behind. (p. 210)

A landscape that has reared up such a spectacle, which can seem to veil Spirit in, with, under, and behind it, is quite a challenge for landscape management. It makes landscape management a matter of ethics as well as of science.

In nature there is no religion; the fauna and flora are incapable of ultimate concern with things holy or sacred. Only humans have, in that sense, a spiritual life. Only humans can be reverent about anything. But there is no religion without a concept of nature (see Kaza, Chapter Three, in this volume); there is no experiencing of nature without, sooner or later, moving to values at religious levels—if one remembers what religion means in the deeper sense. Nature stimulates spiritual experience; that was true once upon a time in the paleontological past when humans with spirits emerged out of nature; that is true again today, when one confronts nature as both the source of and a foil for spirit. Religions have shaped all cultures which have also been shaped by science and which grew up in a Judeo-Christian ambience. Part of such shaping of culture is to provide a concept of nature. Without that understanding, humans will never know who they are because they do not know where they are. Humans will know neither their ultimate origins nor their ultimate duties. As will be next seen, landscape management, in the end, is connected to metaphysics.

Landscape Policy and Spiritual Values

In the twentieth century, there has been a trend toward privatizing religion; religion—especially in its institutional forms—is difficult to deal with in a pluralistic government which believes in separation of church and state. The state must be neutral toward religion which is a matter of personal choice. Religion is a matter of one's spiritual life; that is not the



province of government, and hence not the concern of public landscape managers. And yet, when one is dealing with natural history, with landscapes, with the generative, creative nature that has just been discussed, one faces collective choices about something fundamental. Some ethical choices are made by individuals, but in other cases citizens must choose together. Unless landscapes, with their natural histories, on both public and private lands, are protected by national, state, and local policy, they will be inadequately protected.

If one of the values of landscapes is provided by spiritual responses to nature, religions are then forced to become public and to join in shaping the public ethic. For many persons today, especially in an increasingly urban society, the principal opportunities to experience natural history—wildlands and wildlife, scenic vistas, primeval nature—take place on public lands, as these have been designated for conservation and preservation. Most remaining natural areas are public lands—national forests, parks, wilderness areas, seashores, grasslands, wildlife refuges, lands under the Bureau of Land Management, state or county parks and forests.

One of the constitutional freedoms in the United States is religious freedom, but one cannot be free to practice his or her religion if one of the sources of its inspiration is unavailable, if there is no longer any natural history to experience spiritually. The spiritual values that one may wish to defend on landscapes are often the softer, more diffuse ones, but that does not mean they are unessential or unreal, but that they are deeper and more philosophical. There is nothing denominational about this, since persons are free to experience nature spiritually in diverse ways. Indeed, that is one interesting feature of nature-based spiritual experience: it need not be structured institutionally in orthodox ways but is open-ended. Another important feature is that here, more than elsewhere, the multiple denominations, indeed the plural faiths, are likely to find common ground. Since all faiths, each in its own way, find nature sacred, they together endorse the conservation of nature for its power to generate spiritual experience.

A pristine natural system is a spiritual resource, as well as a scientific, recreational, aesthetic, or economic one. Indeed, although landscape managers commonly think of nature as "natural resources," they can, from the sacred point of view, profane exper-

ience and nature alike if they see nature as merely resource. This is something like seeing God, or parents, or the sacraments as a resource. A forest, a mountain, a prairie is more than resource, instrumental to civilization, more than even a religious resource. It is a primeval, wild, creative source. Here religious persons can bring a perspective of depth on wildland conservation. If landscape managers do not find that such perspective of depth fits their usual categories of landscape management, their perspectives need to be deepened or they will miss important values on landscapes.

Managers need to see forests, for example, as a characteristic expression of the creative process. In a forest, as on a desert or the tundra, the realities of nature cannot be ignored. The forest is both presence and symbol of forces in natural systems that transcend human powers and human utility. Like the sea or the sky, the forest is a kind of archetype of the foundations of the world. The central "goods" of the biosphere—forests and sky, sunshine and rain, rivers and earth, the everlasting hills, the cycling seasons, wildflowers and wildlife, hydrologic cycles, photosynthesis, soil fertility, food chains, genetic codes, speciation and reproduction, succession and its resetting, life and death and life renewed—were in place long before humans arrived, though they have lately become human economic and social resources. The dynamics and structures organizing the forest do not come out of the human mind; a wild forest is something wholly other than civilization. It is presence and symbol of the timeless natural givens that support everything else.

A pristine forest is prime natural history, a relic of the way the world was for almost forever. The forest as a tangible preserve in the midst of a culture contributes to the human sense of duration, antiquity, continuity, and identity. A visit there regenerates the sense of human late-coming and sensitizes us to our novelty. In the primeval forest humans know the most authentic of wilderness emotions, the sense of the sublime. We get transported by forces "awe-full" and overpowering by the signature of time and eternity.

"The groves were God's first temples" (Bryant, 1992). "The trees of the Lord are watered abundantly; the cedars of Lebanon which he planted" (Holy Bible, Psalms 104.16). John Muir (1901) 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" (p. 331). Such forests are a church as surely as a commodity. The forest is where the "roots" are, where life rises from the ground. Trees pierce the sky, like cathedral spires. Light filters down, as through stained glass. The forest canopy is lofty; much of it is 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. "I find that I get goose pimples much more often in a wilderness than I do inside a church."

Being among the archetypes, a forest is about as near to ultimacy as one can come in the natural world—a vast scene of sprouting, budding, flowering, fruiting, passing away, passing life on. Mountaintop experiences, the wind in the pines, solitude in a sequoia grove, autumn leaves, the forest vista that begins at one's feet and disappears over the horizon—these generate experiences of "a motion and spirit that impels ... and rolls through all things" (Wordsworth, 1992). One feels life's transient beauty sustained over chaos. A forest wilderness is a sacred space. There many will recognize God's creation, and others may find the ultimate reality or a nature sacred in itself. A forest wilderness elicits cosmic questions. One of the obligations of landscape managers is to preserve nature as a sanctuary for these spiritual experiences.

Land, Earth, and the Ground of Being

Landscape managers may not need to be cosmologists; that might be expecting too much of them. But they do need a global perspective; they need to rise from the earth beneath their feet to the planet Earth on which they live and move and have their being. They may not need to think about the whole universe, but they do need to think about the whole land that they inhabit. They may not need to think about heaven, or the heavens, but they do need to think about Earth, and they need to think deeply about foundations and fundamentals, about the spirited vitality that characterizes our home planet,

Land is not where one *makes* a living; it is where one *lives*, and this can be seen if one enlarges

the scope from earth to Earth. Landscape management is part of managers' responsibility to Earth. Landscape management can seem specific enough; managers know what the assignments are on the forty acres, or four thousand acres, or forty thousand acres under their charge. Managers know who has grazing allotments where, or who wants to purchase the timber. Managers have surveyed recreationists who use the region they manage, they know who the constituents are in their district. A responsibility to Earth, by contrast, might be thought the most remote of managerial responsibilities. An Earth ethic seems so grandiose and vague beside one's concrete responsibilities to one's children, or to next door neighbors, or to fellow citizens.

But not so: one's responsibility to Earth is the most fundamental, the most comprehensive of responsibilities. Landscape managers increasingly have to figure their responsibilities into this larger picture. 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. Responsibility at this level is always religious—in the deeper sense. Perhaps one will first say that this is a matter of appropriate respect for Earth, but later one will begin also to see that this is a matter of appropriate reverence for life, and for the planet that generates life. The UN Secretary General, Boutros Boutros-Ghali, closed the 1992 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 neighbor; he must also learn to love his world" (Boutros-Ghali in UNCED, 1992a, p. 1). "We must now conclude an ethical and political contract with nature, with this Earth to which we owe our very existence and which gives us life" (Boutros-Ghali in UNCED, 1992b, pp. 68-69).

The twentieth century has been the century of seeing Earth ecosystemically, as a whole, the home planet. Viewing Earthrise from the moon, the astronaut Edgar Mitchell (1971) 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. My view of our planet was a glimpse of divinity,
Mitchell, quoted in Kelley,
at photographs 42-45

Mitchell has an overview of the terrestrial Earth, a total landscape and a seascape view, and his response is that he is seeing God.

A first response here may be that the astronaut has gone to extremes. Earth is not divinity, nor is dirt to be loved like God and neighbor. The astronaut has quite confused nature and spirit. Landscape managers, who ought to be good hard-nosed scientists, must stick to the facts and not get carried away in mystical interpretation. Earth is, after all, just earth. Earth is, in a way, a big rock pile like the moon, only one on which the rocks are watered and illuminated in such way that they support life. No doubt Earth is valuable, but that is because humans are able to value it. We use its natural resources and put landscape managers in charge of either sustaining or exploiting these resources. But it is really human life that is valued 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.

And yet is it so amiss to 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. Say, if you like, that Earth is only a big rock pile, mere matter, but, as Eiseley (1957) insisted, when one considers the story these rocks spin, it must indeed be plain to the materialist that matter contains dreadful powers. Really, the story on these landscapes and seascapes is little short of a series of "miracles," wondrous, fortuitous events, unfolding 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 humans have evolved. But nobody doubts that this is a precious place, a pearl in a sea of black mystery. Earth could be the ultimate object of duty, short of God. And if one cannot get clear about God, there is ample and urgent call to reverence Earth.

Earth is dirt, but here one finds revealed what dirt can do when it is self-organizing under suitable conditions with water and solar illumination. One

can, if one insists on being anthropocentric landscape managers, say that it is all valueless except as a human resource, though valuable in that respect. But one will not be valuing Earth objectively until one appreciates this marvelous natural history. Maybe the planet is not supernatural, but it is surely super in being natural. This really is a superb planet. The astronaut Michael Collins (1980) recalled being awed:

The more we see of other planets, the better this one looks. When I traveled to the Moon, it wasn't my proximity to that battered rank pile I remember so vividly, but rather what I saw when I looked back at my fragile home—a glistening, inviting beacon, delicate blue and white, a tiny outpost suspended in the black infinity. Earth is to be treasured and nurtured, something precious that must endure. (p. 6)

There is the real assignment in landscape management. Managers do not know who they are and where they are until they realize that they are managing a little bit of a precious pearl in a sea of black mystery. That may be metaphor but it is just as true a claim as any bit of hard-nosed science. Those experiences, which, as Mayr (1982) testifies, are widespread in virtually all biologists, are spiritual in this deeper sense. And here landscape managers will find it increasingly required to join with those who are religious in admiration and respect for this marvelous planet that we inhabit. For the appropriate admiration and respect sooner or later passes over to a reverence.

No other species can be either responsible for or religious toward this planet, but *Homo sapiens* carries a responsibility that assumes these spiritual dimensions. In a planetary, environmental age, spirituality 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. Ultimately, there is a kind of creativity in nature demanding either that one spells nature with a capital N, or pass beyond nature to nature's God. If anything at all on Earth is sacred, it must be this enthralling creativity that characterizes our home planet. If anywhere, here is the brooding Spirit of God. If there is Spirit anywhere, this is a spirited



place. If there is any holy ground, any land of promise, this promising Earth is it. That is why, in the end, landscape management is a spiritual duty.

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