What is our place in the universe? To whom are we related and upon whom do we depend? How should we live? The answers to these questions may determine the fate of life on Earth.

It is, of course, a contestable premise that our perceptions and thoughts, including those we consider spiritual or ethical, might affect human behavior to such an extent that we would address climate change and halt the destruction of the Earth’s biological diversity. It may be that impulses such as the sex drive and the need to consume calories so powerfully programs human behavior that cultural mores have little influence. Perhaps these impulses, which so effectively promote human population growth and the diffusion of our species into nearly every earthly habitat, lead inexorably to the tragedy of carrying capacity overshoot, ecosystem collapse, societal breakdown, and mass extinction.1


1. The term “carrying capacity” refers to “the maximum population of a given species which a particular habitat can support indefinitely” given the available and needed habitat, calories, water, and other necessities. Ecologists variously refer to as “collapse” or “die-off” a sharp decline in numbers when a population of organisms “has exceeded the carrying capacity of its habitat.” See William Catton, Overshoot: The Ecological Basis of Revolutionary Change (Urbana: University of Illinois Press, 1980), 272, 273.
This is not an idle worry. Research published in *The Limits to Growth* (1972) contended that if trends present then were to continue (especially increasing human numbers and per capita consumption), there would be widespread breakdown of the world's environmental and social systems in the twenty-first century. These trends have continued and are increasingly obvious. There are, however, many examples where environmentally friendly values and lifeways have coevolved. It is possible for us to live in ways that do not degrade the environmental systems we depend on. But more realistic prescriptions are needed than the ones most commonly offered, such as, that all but the poor should dramatically reduce their levels of consumption. Few have followed or will follow this ascetic prescription, however virtuous it may be to do so. Nor will technological innovation prevent ecosocial collapse. Although some technological innovation reduces environmental deterioration, overall, it is a significant driver of biological simplification.

To transcend facile answers and prescriptions, we must begin the quest for sustainability by establishing taboo-free zones where every premise is examined with an eye toward whether an idea or practice promotes or erodes Earth's genetic and species variety. In this spirit I offer what I think are relevant and important contentions related to knowing our place in the world, our kin, and how we should live.

Scientific understandings about the explosive beginning of the cosmos and the theory of biotic evolution provide the best basis for understanding the origins and diversity of life on Earth. This does not mean that science can fully explain the existence of the universe. As the anthropologist Loren Eiseley eloquently put it, "I am an evolutionist. . . [but] in the world there is nothing to explain the world. Nothing to explain the necessity of life, nothing to explain the hunger of the elements to become life, nothing to explain why the solid realm of rock and soil and mineral should diversify itself into beauty, terror, and uncertainty." Although there are too many limits on knowledge for us fully comprehend the universe, there are some things we know with reasonable certainty, including:

- We belong to the world. The Earth is our home, our place in the universe. Although on rare occasions we shoot a few organisms into space, to remain alive, they must return to Earth. The only place we know for sure that living things exist is here. While there may be life elsewhere, we know that complex life depends on conditions so uncommon that it is rare in the universe; indeed, Earth may be the only place such life exists.

- All earthly life shares a common ancestor; therefore, living things are kin, related in a familial sense. The evidence for this kinship is overwhelming, from the genetic structure shared by all organisms to the ways species change, sometimes evolving even into entirely new species. Another way we can perceive kinship, a common bond with other organisms, is by noting that all life came to be through exactly the same processes, which include a striving to survive and reproduce. As Charles Darwin once put it, "If we choose to let conjecture run wild, then animals, our fellow brethren in pain, diseases, death, suffering, and famine—our slaves in the most laborious works, our companions in our amusements—they may partake [of] our origin in one common ancestor—we may be all netted together." The final passage in this quote introduces the next, critical insight:

- Life exists in complex, interdependent webs. All life-forms are absolutely dependent on other organisms that create and sustain their necessary habitats, as when bacteria recycle waste and plants produce oxygen.


The above-mentioned facts are more obviously true than are beliefs about invisible, immaterial forces, worlds, or beings. This is not to say it is impossible that invisible things or forces exist. It is instead to assert that rational, well-informed individuals, even those who believe in the existence of spiritual realties, will acknowledge the rational grounds on which agnostics or atheists base their doubt or disbelief.

All the above propositions speak to questions regarding our place in the universe and to whom we are related. Along with our uncertainties, they also illuminate questions pertaining to how we should live. The recognition of biotic kinship, combined with our moral imagination, leads to identification with and felt empathy for all other life-forms. Such kinship ethics involve a desire to treat all earthly organisms with respect and to protect the biological processes on which all life depends. This does not mean that we can treat equally or avoid killing every organism, for all life depends on the death of other living things. It means that we understand that there are natural laws that must be respected for the Earth's living systems to flourish.

Many human cultures have kinship ethics and are based in an understanding of nature's laws. These understandings and ethics are often encoded in myths, beliefs, and practices that may not at first glance have an environmental dimension. On close scrutiny, we can discern the ways some cultural narratives and practices promote the flourishing of ecological communities. But today, these examples are small in scale and found among relatively homogenous groups, especially in the few remaining enclaves indigenous peoples inhabit, and have been little impacted by the global market's voracious appetite for resources. Is it possible for large human societies, and international bodies such as the United Nations, to promote an environmentally sustainable world? Is there anything that might unify today's contentious political, economic, and governmental actors?

As unlikely as this may seem, what might unify our species is an accurate understanding of our place in the universe and the nature of our earthly relations, our kinship with other organisms, and the recognition of our absolute dependence on the biosphere and its ecosystems. There are signs that these sorts of understandings, although fledgling, are growing globally. Indeed, I believe new religious form is evolving—a naturalistic nature religion, or, at least, a religion- resemble nature spirituality. The adherents to such nature spirituality, which in recent work I have called “dark green religion,” generally consider nature to be sacred, even though they rarely explain the term. This sort of spirituality is spreading, especially where an evolutionary-ecological worldview has taken root. Evidence of the rapid growth and influence of this spirituality suggests that we may be witnessing the emergence of a global, civic Earth religion, which the political theorist Daniel Deudney aptly labeled “terrapolitan Earth religion.”

To understand terrapolitan Earth religion, in which loyalty and felt citizenship is to the Earth itself, we must understand the idea of civic (or civil) religion. This term refers to cultures in which a nation is invested with transcendent meaning and sacred purpose, thereby promoting group identity and a willingness to sacrifice for the good of the whole. The overall message is that God is responsible for establishing the nation and securing its future. Such religious nationalism consecrates the nation through myths and speeches about its sacred origins and mission, and national rituals during holidays and inaugurations, and at memorials.

An important aspect of civil religion is that it is inculcated through nonspecific and nonsectarian references to the divine. In this way, religious references do not hinder the “we feeling” needed for shared identity and citizen-embracing loyalty, even when people have different religious perceptions and beliefs. While civil religion often supports the status quo, it can also have a prophetic dimension, teaching

that if the people do not fulfill their religious duties, divine blessing might be withdrawn. With civil religion there are, therefore, both positive reasons for ethical behavior (the joys of belonging), and negative ones (avoiding misfortune). In sum, with civil religion, identity and loyalty are "based upon the experiences and feelings of connectedness to a particular place or area." With terrapolitan Earth religion, these feelings and the corresponding ethical obligations are to the Earth and the planet's diverse life-forms and ecosystems. It yields what some call natural piety, biophilia, or religious naturalism, among other terms. It could provide, Deudney believes, a unifying Earth identity and a cultural basis for international environmental cooperation, even a federal republican Earth constitution. Moreover, Deudney argues, its potential is partly because such religion provides "a scientifically credible cosmology" that coheres with an evolutionary-ecological worldview, unlike most long-standing religions. This is one reason for the growing influence of dark green or terrapolitan Earth religion, and the possibility that in a salutary way, such religion could become decisive in the human and planetary future. Such religion self-consciously seeks to promote cultures well adapted to their regional and global habitats.

These positive developments pose a most troubling question: Are the world's long-standing religions fundamentally maladaptive? The late environmental anthropologist Roy Rappaport was one of many scholars who thought so, asserting that the world's major religious traditions, largely because they were written down and thus had become inflexible, were "adaptively false." In other words, they are ecologically maladaptive. He and a number of other eminent scholars who have been promoting this "dark green religion" believe the world's predominant religions should be jettisoned in favor of new spiritual forms that cohere with scientific cosmologies promoting reverential behaviors toward the entire natural world. Are they right? Will maladaptive religions eventually die out because they lead to the destruction of the habitats of their carriers? If the answers to these questions are affirmative, then no time should be wasted in replacing the old, maladaptive forms with nature spiritualities grounded in an evolutionary-ecological worldview.

More time will be needed to judge whether any long-standing religious traditions will prove malleable enough to be adaptive long term; certainly many within the world's religions are laboring to make them environmentally responsible. Nevertheless, religions with ancient roots have more historical and conceptual obstacles to overcome before they can promote comprehensive green behavior than do post-Darwinian forms of nature spirituality. This is why very little of the energy expended by participants in the world's religions is currently going toward the protection and restoration of the world's ecosystems. Conversely, participants in nature spiritualities steeped in an evolutionary-ecological worldview appear to be more likely to work ardently in environmental causes than those in religious traditions with longer pedigrees. I would be delighted if decisive majorities in mainstream religious traditions were to become more environmentally engaged than individuals with other backgrounds and worldviews, but there is little evidence of such a trend. This sad fact casts doubt on the hope that the greening of conventional religions will lead the way toward the urgently needed changes. If worldviews

8. Deudney, "Global Village Sovereignty," 313, which also contains his review of other writers and thinkers who have articulated such views. See 317 for the subsequent Deudney quote about credible cosmology.

10. A recent study of college students found a significant correlation between "bionomic altruism" among college students and environmentally beneficent behavior; see Thomas Dietz, Amy Fitzgerald, and Rachael Shwom, "Environmental Values," Annual Review of Environmental Resources 30 (2005): 335–372. Environmental sociologist Bernard Zaleha accurately summarized the parts of this study that are especially pertinent here: "Those who ascribe to some type of nature-venerating religion probably can be expected to have a higher rate of pro-environment behaviors" than those with a more anthropocentric attitude toward nature. Bernard Zaleha, "Our Only Heaven: An Investigation of the Global Spread and Significance of Nature-Venerating Religion," unpublished paper, University of California, Santa Cruz, April 2009.
11. Survey researchers in 2006 concluded, based on research assuming and focused on religion as conventionally defined in the United States, that it was "not a major influence on environmental views," Pew Research Center report, "Americans uneasy with mix of religion and politics," 24 August 2006, http://pewforum.org/publications/surveys/religion-politics-06.pdf. I have found no little empirical data to suggest that participants in the world's predominant religious traditions are dramatically more environmentally active than other citizens.
matter, a much more profound worldview change may be needed than many assume. It may be that reforming long-standing religions is another form of incrementalism that the planet can ill afford. For this reason, I will put my energies into promoting a more radical religious reformation.

I believe that our greatest hope resides not in invisible beings or the reformation of traditions believing in them, but in the unfolding evolutionary-ecological worldview, which teaches interdependence and mutual dependence, evokes humility and felt kinship with other organisms, and imparts a feeling of belonging and connection to our biosphere. With such nature spirituality, we understand that all life got here in the same way, that we are all subject to the same laws, and that although we have unique talents, we have no greater right to be here than any other living things. With such perception, we might agree to shrink our numbers to ensure the planet's other species have the habitats they need. With a clear understanding of the limits of human knowledge, even though we might disagree about ultimate causes, we can agree that we are lucky to belong to this wondrous and mysterious planet and cosmos. We could also, with such shared understandings, learn to participate self-consciously and responsibly in the Earth's ongoing process of biocultural evolution. This, I think, is our beautiful and daunting challenge.

Coda

Humble yourself as you face the ocean, for it is the source of life.
Humble yourself as you explore the terrestrial world, for it is the expression of the life force.
Humble yourself in the midst of both watery and earthly worlds, for you are utterly dependent on them.
Humble yourself as you contemplate the awesome universe.
Humble yourself as you ponder the mysteries of life, for you will never fully understand them.
Then, celebrate these mysteries, joyous at your good fortune.
Rejoice that you are alive and belong to the only place we know life exists.
Evolve in ways that respect life's diversity.
And, if you feel an urge to worship, worship life.
MORAL GROUND

Ethical Action for a Planet in Peril

Edited by
Kathleen Dean Moore
and
Michael P. Nelson

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Desmond Tutu
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9. Yes, because compassion requires it.

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10. Yes, because justice demands it.

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11. Yes, because the world is beautiful.

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<td>Hank Lentfer</td>
<td>Get Dirty, Get Dizzy</td>
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12. Yes, because we love the world.

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<td>Katie McShane</td>
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13. Yes, to honor and celebrate the Earth and Earth systems.

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<th>Thomas Berry</th>
<th>The Great Work</th>
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<td>N. Scott Momaday</td>
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<td>Linda Hogan</td>
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<td>Mary Evelyn Tucker and Brian Swimme</td>
<td>The Universe Story and Planetary Civilization</td>
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14. Yes, because our moral integrity requires us to do what is right.

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<th>Moral Responsibility Is the Price of Progress</th>
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To the people of all the world:

The essays in this book tell us the moral ground we stand on. They are a clear call to action. We are called to understand that climate change is a moral challenge, not simply an economic or technological problem. We are called to honor our duties of justice, to prevent the enormities of climate change, as the price of the lifestyles of the privileged is paid by millions of poor people, in the loss of their livelihoods and their lives. We are called to honor our duties of compassion, to prevent the suffering of millions of innocent people, especially the hungry children.

Leading environmental scientists predict that as many as 185 million Africans will die this century as the direct result of climate change. Many more will face untold suffering in other parts of the world. As I write, famine is increasing. Flooding is increasing, as are the disease and insecurity caused by water scarcity around the world. Climate change is real. It has begun.

The countries that are the least responsible for causing climate change are paying the heaviest price. The average U.K. citizen produces nearly fifty times as much carbon dioxide as any citizen in the developing world. And in the United States the production of carbon dioxide is significantly higher. This is a serious injustice.

As an African, I urgently call on ordinary people in rich countries to act as global citizens, not as isolated consumers. We must listen to our consciences, not to governments who speak only about economic markets. These markets will cease to exist if climate change is allowed to develop to climate chaos.

We have a big problem to solve. Climate change is a global threat that will affect my generation surely, but will prove to have a devastating effect on my children, not to mention my grandchildren and great-grandchildren. All scientific prognoses show that the continent...
The foreword continues:

Our experience in South Africa confirms that if we act on the side of justice, we have the power to turn tides. Industry, government, civil society, and you and I—we can all make a difference. Raise your voice. I urge you, sisters and brothers, to work together with campaigners in the global south and call for strong climate change laws in your own countries in the north as well as internationally. Do not fly in the face of the poor by allowing the emissions produced by endless and unnecessary business flights to keep growing. Insist on an 80 percent cut in your national emissions and hold your governments to account.

In matters of climate change, as in all our lives, our obligation is clear: we must do unto others as we would wish them to do unto us. Thank you for caring. Thank you for acting.

Archbishop Emeritus Desmond Tutu

The introduction begins:

Toward a Global Consensus for Ethical Action

Kathleen Dean Moore and Michael P. Nelson

The key thing is the sense of universal responsibility; that is the real source of strength, the real source of happiness. If our generation exploits everything available—the trees, the water, and the minerals—without any care for the coming generations or the future, then we are at fault, aren't we?

His Holiness, The Dalai Lama

The problems that we see every day in the markets represent a massive opportunity to stop and think where this is all heading. What sort of people are we?

Hylton Murray-Philipson,
Canopy Capital, UK

It's late autumn as we begin to write. Crows perch on the electric lines that connect the houses. A teenager swings his car into the driveway and opens the door, releasing a wave of music. The little girl who lives next door shuffles past wearing her mother's high-heeled shoes. Her mother sits on their doorstep in the slanting light of late afternoon, watching her daughter. In the next block, a neighbor adjusts his ear protectors and yanks the cord on his leaf blower. Students walk by, detouring into the street to avoid the roaring engine and the blast of leaves. There will be rain this evening and maybe snow by morning.

The scene feels odd, almost fictional, the way life goes on. It seems