1 The Environment as an Ethical Question

1.1 Nature and the environment

What is the environment? In one sense the answer is obvious. The environment is those special places that we are concerned to protect: the Arctic National Wildlife Refuge in Alaska, the Great Barrier Reef in Australia, and the Lake District in the United Kingdom. But the environment is more than these special places. It is also Harlem and Brixton, as well as the Upper East Side of Manhattan and the leafy suburbs of Melbourne. It is even the strip malls of Southern California. The environment includes not just the natural environment but also the built environment.

Indeed, we can even speak of the "social environment." The term 'environmentalism' was coined in 1923 to refer not to the activities of John Muir and the Sierra Club but, to the idea that human behavior is largely a product of the social and physical conditions in which a person lives and develops.[1] This view arose in opposition to the idea that a person's behavior is primarily determined by his or her biological endowment. These environmentalists championed the "nurture" side in the "nature versus nurture" debate that raged in the social sciences for much of the twentieth century. They advocated changing people by changing society, rather than changing society by changing people.

While the scope of the environment is very broad, contemporary environmentalists are especially concerned to protect nature. Often the ideas of nature and the environment are treated as if they were equivalent, but they have quite different origins and histories. The *Oxford English Dictionary* defines

[1] John Muir (1838–1914) founded the Sierra Club in 1892 and is one of America's greatest environmental heroes. For more about his life and work, visit https://en.wikipedia.org/wiki/John_Muir.

'environment' as "the objects or the region surrounding anything," and traces its origin to an Old French term, '*environner*', meaning "to encircle." The word 'nature' has much deeper roots, coming to us from the Latin *natura*. While disputes about the environment have occurred mostly in the twentieth century and after, arguments about the meaning and significance of nature are as ancient as philosophy.

That these terms, 'environment' and 'nature', are not identical in reference and meaning can be seen from the following examples. The *boulangerie* (bakery) on the corner of my street in Paris is part of the environment, but it would be strange to say that it is part of nature. The neurons firing in my brain are part of nature, but it would be weird to say that they are part of the environment. Finally, had the contemporary environmentalist, Bill McKibben, written a book called *The End of the Environment* instead of the book he actually wrote, *The End of Nature*, it would have had to be a quite different book.

Sorting out the reasons for these disparate uses would be good fun. Perhaps it is a necessary condition for something to be part of our environment that we think of it as subject to our causal control, while no such condition applies to what we think of as nature. So the moon, for example, is part of nature but not part of our environment. On this view the end of nature might be thought of as the beginning of the environment.[2]

1.2 Dualism and ambivalence

The expansiveness of the environment is reflected in the contemporary environmental movement by the concept of holism. The First Law of Ecology, according to Barry Commoner in his 1971 book, *The Closing Circle*, is that "everything is connected to everything else." This holistic ideal resonates in the common environmentalist slogan that "humans are part of nature." This slogan is often used to imply that the "original sin" that leads to environmental destruction is the attempt to separate ourselves from nature. We can return to a healthy relationship with nature only once we recognize that this attempt to separate ourselves is both fatuous and destructive.

The thirst for "oneness" runs throughout much environmentalist rhetoric. Indeed, one way of rebuking someone in the language of some

[2] For further discussion, see Sagoff 1991.

environmentalists is to call them a "dualist."[3] Dualists are those who see the world as embodying deep distinctions between, for example, humans and animals, the natural and unnatural, the wild and domestic, male and female, and reason and emotion. "Monists," on the other hand, deny that such distinctions are deep, instead seeing the items within these categories as continuous or entwined, or rejecting the categories altogether. Despite the attractions of monism, it is difficult to make sense of many environmentalist claims without invoking dualisms of one sort or another. The trick is to figure out when and to what extent such dualisms are useful.

Consider the idea that humans are part of nature. If humans and beavers are both part of nature, how can we say that deforestation by humans is wrong without similarly condemning beavers for cutting trees to make their dams? How can we say that the predator–prey relationships of the African Savanna are valuable wonders of nature while at the same time condemning humans who poach African elephants? More fundamentally, how can we distinguish the death of a person caused by an earthquake from the death of a person caused by another person?

Aesthetically appreciating nature also seems to require a deep distinction between humans and nature. Aesthetic appreciation, at least in the normal case, involves appreciating something that is distinct from one's self. Perhaps it would be possible to appreciate some aspect of oneself aesthetically, but that would require a strange sort of objectification and appear to be a form of vanity.

Some might say that this is no great loss, since viewing nature aesthetically is a way of trivializing it. As we shall see in Section 8.4, this claim rests on a false view of the value of aesthetic experience. Moreover, it is a plain fact that environmentalists often give aesthetic arguments for protecting nature, and these arguments are extremely powerful in motivating people. For anyone who has spent time in such places as the Grand Canyon, it is easy to see why. The view from the south rim is an overwhelming aesthetic experience for almost anyone. Jettisoning aesthetic arguments for protecting the environment would greatly weaken the environmentalists' case.

[3] In different ways, the rejection of dualism is a theme of both "deep ecologists" (e.g., Næss 2009) and "ecofeminists" (e.g., Plumwood 1993). For overviews of these positions, see Jamieson 2001: chs. 15–16. For an overview of feminist environmental philosophy, see plato.stanford.edu/entries/feminism-environmental/.

This ambivalence between seeing humans as both part of but also separate from nature is part of a larger theme that runs through environmentalism. Under pressure, environmentalists will agree that Harlem is as much a part of the environment as Kakadu National Park in Australia, but it is a plain fact that protecting Harlem is not what people generally have in mind when they talk about protecting the environment. Moreover, much of the history of environmentalism has involved distinguishing special places that should be protected from mundane places that can be used for ordinary purposes.

Consider an example. The contemporary environmental movement is often dated from the early twentieth-century struggle of John Muir and the Sierra Club to protect the majestic Hetch Hetchy Valley, in the recently created Yosemite National Park, from a proposed dam intended to provide water and electricity to the growing city of San Francisco. Muir had no trouble suggesting alternative water supplies for the city, going so far as to say that "north and south of San Francisco ... many streams waste their waters in the ocean."[4] Hetch Hetchy was special, according to Muir, and his arguments against the dam appealed, in quasi-religious terms, to its unique character and majesty. This idea that there are special places that deserve extraordinary protection is part of the historical legacy of environmentalism, and reflects an attitude going back at least to our Neolithic ancestors.

As these examples suggest, there are deep ambivalences in environmental thought and rhetoric. On the one hand, judging human action by a standard different from "natural" events requires distinguishing people from nature, but convincing people to live modestly may require convincing them to see themselves as part of nature. Aesthetically appreciating nature involves seeing ourselves apart from nature, but this is supposed to be the attitude that gives rise to environmental destruction in the first place. The environment is everything that surrounds us, but some places are special.

Someone who is unsympathetic to environmentalism might reject my polite but vague description of these cases as expressing "ambivalences." Such a person might say instead that environmentalism is a view that is enmeshed in paradox and contradiction and, for these reasons, should simply be given up. This, however, would be the wrong conclusion to draw. I agree that we take different perspectives on nature and the environment on

[4] From a 1909 pamphlet by John Muir, available on the web at www.sfmuseum.org/john/muir.html.

different occasions, and sometimes, perhaps, even simultaneously; and that it is a challenge to understand these phenomena and to bring them together. In my opinion, however, this is not peculiar to our thinking about the environment, but reflects deep tendencies in human thought. What for some purposes we see as the setting of the sun, for other purposes we see as a relation between astronomical bodies. What from one perspective we see as a man who is a predictable product of his environment, from another perspective we see as an evil person. We live with multiplicity; the trick is to understand it, and to deploy our concepts productively in the light of it.[5]

Consider, for example, the stances that we take towards our fellow humans. We are almost never single-minded about them, nor are our attitudes serial or linear. We live with multiple views and perspectives, often held simultaneously, sometimes with quite different valences. Imagine a colleague who is excellent at his work, narcissistic in his behavior, an emotional abuser of women, but a charming and intelligent social companion. I might happily work with him on a project, but I would not introduce him to a female friend. I might enjoy going to the movies with him, but I would not open my heart in a conversation over dinner. I would say that such complexity in human relationships, rather than plunging me into inconsistency is the stuff of everyday life.

Our relationships to nature are no less complex. Consider my relationship to the Needles District of Canyonlands, part of the American wilderness system. I have hiked and camped there, experiencing the sublimity of Druid Arch and the luminescence of the full moon over Elephant Canyon. In searching for water, I have felt myself to be part of the natural system that orders and supports life in this desert. I am irate about proposals to open this area to off-road vehicles. Such a policy would be unjust to backpackers and wilderness adventurers, who would lose the silence and solitude that make their wilderness experiences possible. I also mourn for the wildlife that would be destroyed or driven away by such a policy. I find the idea of people treating this place as if it were some desert speedway both vulgar and disrespectful. My attitudes towards this area embody multiple perspectives: a recognition that who I am is defined, at least in part, by my relationship to this place; a desire for the aesthetic experiences that it affords; and most of all, a passion that those who love and inhabit this place be treated justly. The moral psychology of my

[5] For a celebration and defense of this attitude, see Goodman 1978.

attitudes is complex, but it should not be surprising that our attitudes towards nature can be as complex as our attitudes towards our conspecifics.

1.3 Environmental problems

Even if there were no environmental problems, there would still be a place for reflecting on ethics and the environment. However, what has given our subject its urgency and focus is the widespread belief that we are in an environmental crisis of our own making. Many biologists believe that the sixth major wave of extinction since life began is now occurring, and that this one, unlike the other five, is being caused by human action.[6] Atmospheric scientists tell us that the anthropogenic (i.e., human-caused) global warming that is now under way may already have surpassed anything that humans have experienced. Many other examples could be given.

Some doubt the seriousness of this crisis because they are skeptical about the science. They think that scientists exaggerate their results in order to obtain more research funding. Or they are put off by the methodologies used in environmental science that often involve "coupling" highly complex computer models, and using them to produce forecasts or "scenarios" on the basis of data sets that are often seriously incomplete. Of course, the same concerns can be raised about other sciences, including those that inform the management of the economy. The defense in both cases is the same: there is no better alternative than to act on the basis of the best available science, recognizing that it is the nature of scientific claims to be probabilistic and revisable. Of course, it may turn out that the skeptics are right and that environmental science is mostly a bunch of hooey. But then, I may also win the lottery.

Every so often a book is published that largely accepts the findings of environmental science, but views the glass as half full rather than half empty. According to these critics, environmentalists focus only on the "doom and gloom" scenarios and ignore the good news. Life expectancy, literacy, and wealth are increasing all over the world.[7]

[6] Kolbert 2014.

[7] Bjørn Lomborg has made a career of this line of argument (e.g., in his 2020 book); for a trenchant review, visit www.nytimes.com/2020/07/16/books/review/bjorn-lomborg-false-alarm-joseph-stiglitz.html.

While there has been progress in addressing some environmental problems, it has been patchy and incomplete. Air quality in the United States, for example, steadily improved from the passage of the Clean Air Act in 1970 until 2016, but then progress reversed and air quality has since deteriorated.[8] Even the four-decade-long improvement masks the fact that in some parts of the United States (especially those inhabited by poor people or people of color) there was little improvement and in some cases deterioration. In any case it is hard to claim success when air pollution kills between 100,000 and 200,000 people per year in the United States and perhaps as many as 800,000 people per year in Europe.[9] The toll is much higher in the developing world with air pollution claiming as many as 7 million lives globally.[10]

Some people deny the seriousness of environmental problems, not because they believe that we are making great progress in addressing them, but because they believe that the changes that we have set in motion will have limited or even positive impacts. They have an image of nature that views it as resilient, almost impervious to human insults. Sometimes this vision is inspired by the "Gaia hypothesis," put forward by the British scientist James Lovelock in the 1970s. According to Lovelock, Earth is a self-regulating, homeostatic system, with feedback loops that give it a strong bias in favor of stability. From this perspective, it would be surprising if the actions of a single species could threaten the basic functioning of the Earth system.[11]

Others, especially many environmentalists, view nature as highly vulnerable and planetary systems as delicately balanced. In their view, people have the ability to disrupt the systems that make life on Earth possible. While once people needed to be protected from nature, today nature needs to be protected from people.

Both of these views have more the character of an ultimate attitude or even a religious commitment than of a sober scientific claim that can be shown to be true or false. However, even if those who are most skeptical

[8] Clay, Muller, and Wang 2021.
[9] Goodkind et al. 2019, Bowe et al. 2019, Lelieveld et al. 2019.
[10] www.who.int/health-topics/air-pollution.
[11] Later, however, even Lovelock (2006) became pessimistic about the human impact. Generally on Gaia, see Volk 2003.

about the existence of an environmental crisis are correct, this would not obviate the need for reflecting on the ethical dimensions of environmental questions.

Suppose that it is true that environmentalists dwell on the dark side and that, however implausible this may seem, things are really getting better all the time. Even if this were true, an improving situation is, by definition, not the one that is best. So long as one innocent person dies unnecessarily because of environmental harms caused by others, there is a need for ethical reflection.

Suppose, as do those who are inspired by the Gaia hypothesis, that Earth's systems are resilient. It would not follow from this that environmental problems are not worth taking seriously. Even if Earth systems successfully respond to our environmental insults, there may still be a high price to pay in the loss of much that we value: species diversity, quality of life, water resources, agricultural output, and so on. Through centuries of warfare, European nations demonstrated their resilience, but millions of people lost their lives, and much that we value was destroyed. Moreover, even if it is highly unlikely that human action could lead to a collapse in fundamental Earth systems, the consequences of such a collapse would be so devastating that avoiding the risk altogether would be preferable. Just as it is best not to have to rely on the life-saving properties of the airbags in one's car, so it would be best not to have to rely on the resilience of Earth's basic systems.

Environmental problems are real and urgent. They are diverse in scale, impact, and the harms they threaten. They can be local, regional, or global. They can involve setbacks to human interests, or they can damage other creatures, species, or natural systems. These features of environmental problems will be discussed in Sections 1.4 and 1.5.

1.4 Questions of scale

Many environmental problems are local in scale, and people confronted them before the word 'environment' existed. For example, the common practice in medieval Europe of tossing sewage into the street caused an environmental problem that was largely local in scope. My neighbor who insists on playing heavy metal music at all hours also causes a local environmental problem. Noise is ubiquitous in modern life, and we do not often think of it in this way, but it has many of the hallmarks of a classic pollutant. It causes people to lose

sleep and to stay away from home, and it generally degrades their quality of life. There is evidence that persistent exposure to high levels of noise can even raise blood pressure and impair cognitive development. Noise pollution can spread out from being a matter of one household affecting another, to being a serious urban problem, as anyone who has ever lived in a large metropolitan area such as New York City can testify.

Another local environmental problem that is often not viewed in this way is the exposure to tobacco smoke. This is a much more serious problem than noise pollution, claiming thousands of lives each year. Local environmental problems can affect quality of life or seriously threaten life itself.

Some environmental problems are regional in scope. In these cases people act in such a way that they degrade the environment over a region, thus producing harms that may be remote from the spatiotemporal location of their actions. Rather than involving one event that simply produces another event in the same locale, they involve complex causes and effects spread over large areas. Air and water often provide good examples of regional environmental problems, since they follow their own imperatives rather than political boundaries. Floods and other water-management issues involve entire watersheds, and air quality involves the dynamics of the troposphere.

The catastrophic floods that occurred in China in 1998 provide another example of a regional environmental problem. For decades, deforestation has been occurring in the upper elevations of the Yangtze River Basin. When extremely heavy rains occurred in June and July of that year, runoff was much more intense and rapid as a result, leading to floods that affected more than 200 million people and killed more than 3,600.

Over the last several decades, global environmental problems, such as climate change and stratospheric ozone depletion, have captured a great deal of attention. These are problems that could not have existed without modern technologies.

Ozone depletion is caused by chlorofluorocarbons (CFCs) – a class of chemicals that was invented in 1928 for use as refrigerants, fire extinguishers, and propellants in aerosol cans. CFC emissions, through a complex chain of chemistry, lead to the erosion of stratospheric ozone, thus exposing living things on Earth to radically increased levels of life-threatening ultraviolet radiation.

The climate change that is now under way is caused by human action: land-use changes and the emissions of "greenhouse gases," principally

carbon dioxide, a byproduct of the combustion of fossil fuels.[12] The massive consumption of fossil fuels that fed the Industrial Revolution and continues to support the way of life of industrial societies is causing the climate change that is now under way. Since the preindustrial era, the Earth has already warmed more than 1°C (1.8°F), and we may already be committed to another 0.5°C (0.9°F) warming over the course of the twenty-first century.[13] If our present behavior continues, we may well bequeath to future generations the most extreme and rapid climate change since the age of the dinosaurs.

1.5 Types of harm

Environmental problems inflict many different types of harm. For example, some environmental problems primarily affect the quality of life for human beings. The harms caused by my heavy-metal-loving neighbor are an example of this sort. No one will die nor will a species be driven to extinction by his boorish behavior, but the quality of life of his neighbors will be compromised.

Other environmental problems threaten human health. Indeed, the protection of human health is the primary rationale for most of the regulations issued by the United States Environmental Protection Agency. Regulations controlling pollutants in air and water, and levels of pesticide residues, are examples. Some statutes do require that other values be taken into account, but it is not too much of an exaggeration to say that over the years the United States Environmental Protection Agency has increasingly evolved into a public health agency.

Some environmental problems affect mainly nonhuman nature. While arguments have been made for why there is a human interest in protecting species diversity, for example, it is difficult to deny that blanket prohibitions against driving species to extinction presuppose values that are deeper than considerations about human health or quality of life. The American Endangered Species Act, for example, first passed in 1973, evinces a concern for species themselves that goes beyond considerations of human health or quality of life.

[12] Greenhouse gases are the suite of gases that trap heat in the atmosphere. Visit www.epa.gov/ghgemissions/overview-greenhouse-gases for further discussion.

[13] www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_SPM.pdf.