1 *Humans Valuing the Natural Environment*

THAT THERE OUGHT to be some ethic concerning the environment can be doubted only by those who believe in no ethics at all. For humans are evidently helped or hurt by the condition of their environment. Environmental quality is necessary, though not sufficient, for quality in human life. Humans dramatically rebuild their environment, in contrast to squirrels, which take the environment as they find it. But human life, filled with its artifacts, is still lived in a natural ecology where resources—soil, air, water, photosynthesis, climate—are matters of life and death. All that we have and are was grown in or gathered out of nature. Culture and nature have entwined destinies, similar to (and related to) the way minds are inseparable from bodies. So ethics needs to be applied to the environment.

Nevertheless, we are not here seeking simply to apply human ethics to environmental affairs. Environmental ethics is neither ultimately an ethics of resource use; nor one of benefits, costs, and their just distribution; nor one of risks, pollution levels, rights and torts, needs of future generations, and the rest—although all these figure large within it. Taken alone, such issues enter an ethic where the environment is *secondary* to human interests. The environment is instrumental and auxiliary, though fundamental and necessary. Environmental ethics in the *primary*, naturalistic sense is reached only when humans ask questions not merely of prudential use but of appropriate respect and duty.[1]

That there ought be an environmental ethic in this deeper sense will be doubted by many, those entrenched in the anthropocentric, personalistic ethics now prevailing in the Western world. For them, humans can have no duties to rocks, rivers, or ecosystems, and almost none to birds or bears; humans have serious duties only to each other, with nature often instrumental in such duties. The environment is the wrong kind of primary target for an ethic. It is a means, not an end in itself. Nothing there counts morally. Nature has no intrinsic value.

Just this last claim—that nature has no intrinsic value—is what we will steadily be challenging. *Value* will therefore be a principal term in the arguments that follow. If this were an inquiry into human ethics, terms such as *rights, justice, beneficence and maleficence, social contracts, promises, benefits and costs, utility, altruism, and egoism* would be regularly used. These also play a part in environmental ethics, but the fundamental term that will most help to orient us is *value*. It will be out of *value* that we will derive *duty*.

One striking thing about humans in relation to the natural environment is the richness of their "uses" of it. We will begin with an account of humans valuing their environment. Every living thing exploits its environment for biological needs. Like squirrels, humans are hurt by poisons in groundwater, helped by a renewable food supply. But humans have a power to understand, appreciate, and enjoy nature far beyond their biological uses of it. Humans are helped by scenic vistas or scientific experiments conducted in the wilderness, but squirrels never use their environment in these ways. Humans dramatically study and rebuild their environments. Further, unlike animals, humans can take an interest in sectors remote from their immediate, pragmatic needs; they can espouse a view of the whole (see Chapters 2 and 9). This means that nature carries for humans a vast array of values little shared by other species.

To begin with an account of how humans value nature may seem to lead only to a secondary environmental ethics. But appearances are deceiving. Such a beginning will prove a strategic entry point into a primary environmental ethics, owing to the rich ways in which humans value nature. Even those who believe that we only need an ethic concerning the environment can start here and see what concerns develop, what gestalts change. Valuing nature may prove a route into doing what only humans can do, transcending what is immediately given and using it as a window into the universe. This trailhead is a good place to take off for points unknown.

Over the route that follows we will not always be able to travel using well-charted ethical arguments, for these do not exist in the wilderness. Ethicists have reflected upon human-to-human relationships for thousands of years, and although interhuman ethics remains frequently unsettled, there are well-worn tracks of debate. Environmental ethics is novel, at least in the classical and modern West; it lies on a frontier. This terrain is sufficiently un-

explored to make discovery possible. We may also find ourselves deeper in the woods than we anticipated.

Values Carried by Nature

Asking about values *carried* by nature will let us make an inventory of how nature is valuable to humans, with the subtle advantage that the term *carry* lets us switch-hit on the question of objectivity and subjectivity. In the spectrum of values crossed here, some (the nutritional value in a potato) seem objectively there, while others (the eagle as a national symbol) are merely assigned. Either way, desired human experiences are tied in to the existence of something out there. As we uncover these valued "functions" of nature, we can begin to press the question whether and how far value intrinsic in nature enables humans to come to own these values. Notice too that things never have value generically, but rather have specific sorts of value. Some adjective needs to be filled into a blank before the noun: ———value. Analogously, objects are not just colored *simpliciter* but are crimson or sky blue.

Life-Support Value

The ecological movement has made it clear that culture remains tethered to the biosystem and that the options within built environments, however expanded, provide no release from nature. Humans depend on airflow, water cycles, sunshine, photosynthesis, nitrogen fixation, decomposition bacteria, fungi, the ozone layer, food chains, insect pollination, soils, earthworms, climates, oceans, and genetic materials. An ecology always lies in the background of culture, natural givens that support everything else. Some sort of inclusive environmental fitness is required of even the most advanced culture. Whatever their options, however their environments are rebuilt, humans remain residents in an ecosystem. Earlier ethics never paid much attention to ecosystems because humans had little knowledge of what was going on and even less power to affect these processes (though there was environmental degradation in ancient Mesopotamia). But lately, owing to human population increases, advancing technology, and escalating desires, we are drastically modifying our life-support system. Persons are helped and hurt by these alterations, and this raises ethical questions.

Ecological values contribute positively to human experiences. But they also seem to be there apart from humans being here.

Nature is an evolutionary ecosystem, with humans a late add-on; the central goods of the biosystemic Earth were in place before humans arrived. Nature is an objective value carrier; humans cash in on, and spend, what is naturally given. In many respects, though by no means all, the earthen setup is "a happy place." Those who find value to be entirely subjective will smile and say that in that kind of remark humans are only getting back their reflected emotions, as when others say that Earth is "a lonely place." But those who prefer a more objective gestalt will wonder why we find ourselves alive and well (= happy) in a life-support system that can, by means of natural selection and ecological support, evolve and sustain such a flourishing of life.

"Happy" is too subjective a word, but what if we say that Earth is a "fortunate" place or a "fertile" place, a place with significant fortunes where life has been nourished? That seems to begin to value objectively what is going on independently of humans. What if we say that Earth is a "satisfactory" place and mean by that not only that humans have prospered here but also that myriads of species have found "satisfactory" environments, life-supporting niches into which they are well fitted? Is not that objective satisfaction of life true, with or without our human experiences of satisfaction, when we reflect over the prosperous Earth? (See Chapter 5, "Assessing Satisfactory Ecosystems").

Do not humans value Earth because it is valuable, and not the other way round? Is the value in this life-support system really just a matter of latecoming human interests, or is Earth not historically a remarkable, valuable place prior to the human arrival and even now valuable antecedently to the human uses of it? The human part in the drama is perhaps the most valuable event of all. But it seems parochial, as well as uninformed ecologically, to say that our part alone in the drama establishes all its worth. Ecology is not something subjective, not something that goes on in the human mind. Perhaps the value produced and carried in an ecosystem, together with the conscious valuing of it that comes later on, is not a merely subjective affair either, although the latter does require human subjects.

In an ecological perspective, that Earth is *valuable* would mean that Earth is *able* to produce *value* and has long been doing so as an evolutionary ecosystem. A late though remarkable product of the process is humans, who are also valuable—of value in an advanced way. When humans come, they find Earth often *valuable*, able to satisfy preferences, *able* to produce *valued experiences*. The

subjective value events are a subset—perhaps a capstone subset but still a superposed subset—of the larger, objective production and support (= satisfaction) of value.

Economic Value

Though humans require natural givens, they do not take the environment ready to hand. They do not usually adapt themselves to wild nature; rather they labor over nature, rebuilding it to their cultural needs, owing to the remarkably flexible powers of the human hand and brain. Any living thing makes its environment into a resource. A squirrel hides a cache of acorns; a bird builds a nest. But these activities still involve ecologies, hardly yet economies, unless we choose to call all questions of efficient food and energy use economic. Achieving economic value, in the usual sense, involves the deliberate redoing of natural things, making them over from spontaneous nature, coupled with a commerce in such remade things. Animals do not exchange in markets; by contrast, markets are basic to every culture.

The price of petroleum proves that nature has economic value, but the sense in which it does can be contested, for human labor so dramatically adds to nature's raw value that an economist may here see valuing as a kind of adding-on of labor to what is initially valueless: "crude" oil has no value, but a petroleum engineer may "refine" it. The sense of the prefix *re-* in *resource* is that nature can be refitted, turned to use by human labor, and only the latter gives it value. Valuing is a kind of laboring. If this were entirely so, we should not say, strictly speaking, that nature *has* economic value, any more than we say that an empty glass has water in it. It only *carries* the value of labor. Marxists have often argued that natural resources should be unpriced, for resources as such have no economic value.[2] But a research scientist, mindful of the remarkable natural properties on which technology depends, may immediately add that human art has no independent powers of its own, and such a scientist may give a different valuation of this natural base.

There is a foundational sense in which human craft can never produce any unnatural chemical substances or energies. All humans can do is shift natural things around, taking their properties as givens. There is nothing unnatural about the properties of a computer or a rocket; as much as a warbling vireo or a wild strawberry, both are assemblages of completely natural things operating under natural laws. This sets aside essential differences be-

tween artifacts and spontaneous nature (which we examine later), but it does so to regain the insight that nature has economic value because it has an instrumental capacity—and this says something about the material on which the craftsmanship is expended. Nature has a rich utilitarian *pliability*, due both to the plurality of natural sorts and to their splendid, multifaceted powers. This is nature's economic value in a basic and etymological sense of something we can arrange so as to make a home out of it. Nature is a fertile field for human labor, but that agricultural metaphor (which applies as well to industry) praises not only the laborers but their surrounding environment. Nature is something recalcitrant yet often agreeable and useful, frequently enough to permit us to build our entire culture on it.

Despite the prefix, *resource* preserves the word *source* and recalls these generative qualities so profuse in their applications. It is sometimes thought that the more civilized humans become, the further we get *from* nature, released from dependency on the spontaneous natural course. This is true, but science and technology also take us further *into* nature. A pocket calculator is, in this perspective, not so much an exploitation of nature as it is a sophisticated appreciation of the intriguing, mathematical structure of matter-energy, properties enjoying an even more sophisticated natural use in the brain of the fabricator of the calculator.

Such economic value is a function of the state of science, but it is also a function of available natural properties, which often quite unpredictably mix with human ingenuity to assume value. *Penicillium* was a useless mold until 1928, when Alexander Fleming found (and much amplified) the natural antibacterial agency. The bread wheat, on which civilization is based, arose from the hybridization (probably accidental) of a mediocre natural wheat with a weed, goat grass. Who is to say where the miracle foods and medicines of the future will come from? Given the striking advances of technology, an endangered ecosystem is likely to contain some members of potential use. When humans conserve nature, we hope in the genius of the mind, but we also reveal our expectations regarding the as yet undiscovered wealth of natural properties that we may someday capture and convert into economic value.

In some respects, human ingenuity makes nature an infinite resource, because humans can always figure new ways to remake nature, find substitute resources, exploit new properties. By an increasingly competent use of natural resources, the human econ-