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## CHAPTER ONE

### INTRINSIC VALUES IN NATURE (ICELAND)

#### HOLMES ROLSTON, III

Humans are helped or hurt by the condition of their environment; and, many argue, that is what environmental ethics is all about—protecting what people have at stake in the conservation of their life support systems, landscapes, and natural resources. Ethics is for people. People are both the subject and the object of ethics. Only humans are deliberative moral agents and humans have obligations only to other humans. Only people can be held responsible, and they can only be held responsible by and to other people.

Or so it might first appear. But this, I will argue, is only a half truth. Humans can and ought to be held responsible for what they are doing to their Earth—that is true enough. Only humans can be held so responsible—not wild animals, or plants, or species, or ecosystems. Nature is amoral. We are not responsible, of course, for Earth's being here past and present; we are late-comers in evolutionary history. But we are becoming increasingly responsible for Earth's future. In that sense, everything humans value is at stake in seeking sustainable development, a sustainable biosphere. If there are any duties at all, we must care for this surrounding world, since this is the home for us all. But—so this argument goes—these are duties owed by people to other people (as well as to themselves); caring for the planet is a means to this end.

Certainly, a great deal of the work of environmental ethics can be done mindful of our duties to other humans. Humans need to be healthy, for instance. Health is not simply a matter of biology from the skin-in. Environmental health, from the skin-out, is just as important. Humans too, like the animals and plants, need reasonably clean air and water. In agriculture, humans must grow their food in soil that is more or less unpolluted (use pesticides and herbicides though they may) and fertile (use fertilizers though they may). It is hard to have a healthy culture on a sick environment.

Nor is environmental health just minimal; think rather of a quality environment. Humans need natural commodities—timber, water, soil, natural resources; they enjoy natural amenities—wildlife and wildflowers, scenic views, places of

recreation and solitude. Environmental ethics, by this account, is founded on what we might call a human right to nature. There are duties to people concerning nature, but there are no duties directly to animals, or plants, or species, or ecosystems. Nature is instrumental to human goods,

But, I am arguing, that is a half truth. Environmental ethics is also about duties directly to and values intrinsic in the natural world. Broadly speaking, we can ask two questions of something, an  $x$ . (1) What is  $x$  good for? (2) What is  $x$ 's good? The first asks what good is there for me. The second asks what good is there in itself. The first question is about instrumental value. The second is about intrinsic value. Are there intrinsic values in nature, values that can command our appropriate respect, values that can count morally?

Maybe it will help to reframe this question in terms of biological conservation. (1) What good is conserving  $x$ ? (2) What good is  $x$  conserving? The first is the up-front, current question about biodiversity, the reason we wish to conserve  $x$  instrumentally. But maybe that question cannot be correctly answered until we have also asked the second question, which goes deeper down, the more fundamental biological question what intrinsic conservation is taking place.

In this profound sense, biological conservation began when life began, three and a half billion years ago. Biological conservation is innate as every organism conserves, values its life. Biology without conservation is impossible, a contradiction in terms, a condition that can exist in the actual world only temporarily, since it will be self-defeating and selected against. Biology without conservation is death. What we need as a conservation strategy is appropriate respect for life, to get our human conservation biology an adapted fit with this perennial conservation biology.

Are there values conserved in non-human nature that humans can and ought appropriately respect? Ethics is for people, but is ethics only about people? What has ethics to say about the rest of life on our planet? The challenge for environmental philosophy is how to get people, who alone on the planet can be ethical, to care for a world that is our home planet and also the home for these other creatures.

## 1. Animals

There is no better evidence of nonhuman values and valuers than spontaneous wild life, born free and on its own. Animals hunt and howl, find shelter, seek out their habitats and mates, care for their young, flee from threats, grow hungry, thirsty, hot, tired, excited, sleepy. They suffer injury and lick their wounds. Here we are quite convinced that value is nonanthropocentric. These wild animals defend their own lives because they have a good of their own.

There is somebody there behind the fur or feathers. Our gaze is returned by an animal that itself has a concerned outlook. Here is value right before our eyes, right behind those eyes. Animals are value-able, able to value things in their world. They maintain a valued self-identity as they cope through the world. An animal values its own life for what it is in itself, intrinsically.

Humans have used animals for as long as anyone can recall, instrumentally. And in most of their moral traditions, they have also made place for duties concerning the animals for which they were responsible, domestic animals, or toward the wild animals which they hunted. We modern people are too wise, if we think that ethics is only for people. Animal lives command our appropriate respect for the intrinsic value present there. But this is only an ethic for mammals, perhaps for vertebrates, and this is only a fractional percentage of living things.

## 2. Organisms

Animals, yes, you may say—the higher, sentient animals. What about other living things, such as *plants*? Can they defend value, on their own? A plant is not a subject, but neither is it an inanimate object, like a stone. Plants, quite alive, are unified entities of the botanical though not of the zoological kind, that is, they are not unitary organisms highly integrated with centered neural control, but they are modular organisms, with a meristem that can repeatedly and indefinitely produce new vegetative modules, additional stem nodes and leaves when there is available space and resources, as well as new reproductive modules, fruits and seeds.

Plants make themselves; they repair injuries; they move water, nutrients, and photosynthate from cell to cell; they store sugars; they make toxins and regulate their levels in defense against grazers; they make nectars and emit pheromones to influence the behavior of pollinating insects and the responses of other plants; they emit allelopathic agents to suppress invaders; they make thorns, trap insects.

A plant, like any other organism, sentient or not, is a spontaneous, self-maintaining system, sustaining and reproducing itself, executing its program, making a way through the world, checking against performance by means of responsive capacities with which to measure success. On the basis of its genetic information, the organism distinguishes between what *is* and what *ought to be*. The organism is an axiological system, though not a moral system. So the tree grows, reproduces, repairs its wounds, and resists death. A life is defended for what it is in itself. Every organism has a *good-of-its-kind*; it defends its own kind as a *good kind*. The plant, as we were saying, is involved in conservation

biology. Does not that mean that the plant is valuable, able to value itself on its own?

But, comes the objection, even though plants have a good of their own, they are not able to value because they are not able to feel anything. Nothing matters to a plant. There is plant good, but not plant value. There is no valuer evaluating anything. Plants can do things that interest us, but the plants are not interested in what they are doing. They have only their merely functional goods.

But, though things do not matter *to* plants, things matter *for* them. We ask, of a failing plant: What's the matter *with* that plant? If it is lacking sunshine and soil nutrients, and we arrange for these, we say: The tree is benefiting from the sunshine and the soil nutrients; and *benefit* is—everywhere else we encounter it—a value word. Objectively, it is difficult to dissociate the idea of value from natural selection. Biologists regularly speak of the "survival value" of plant activities; thorns have survival value. These survival traits, though picked out by natural selection, are innate (= intrinsic) in the organism, that is, stored in its genes and expressed in structure and behavior.

But, it will be protested: Careful philosophers will put this kind of "value" in scare quotes. This is not really value at all, because there is no felt experience choosing from alternatives, no preferences being exercised. This so-called value is not a value of interest to people valuing nature because it is not a value with interest in itself.

But why is the organism not valuing what it is making resources of?—not consciously, but we do not want to presume that there is only conscious value or valuing. That is what we are debating, not assuming. The tree defending its good of its kind is an observation of value in nature with just as much certainty as the tree's metabolism is biological fact. Trees appear to be green, and perhaps we do not want to call the electromagnetic waves actually there "greenness." But trees photosynthesize with or without humans watching them. Matters can be better or worse for the tree, and this amounts to saying that the tree on its own has its goods and harms.

Some worry that we here commit what philosophers call the naturalistic fallacy. We find what biologically is in nature and conclude that something valuable is there, something which we may say we ought to protect. But does it not rather seem that the facts here are value facts, when we are describing what benefits the tree? Such value is pretty much fact of the matter. If we refuse to recognize such values as being objectively there, have we committed some fallacy? Rather, the danger is the other way round. We commit the subjectivist fallacy if we think all values lie in subjective experience, and, worse still, the anthropocentric fallacy if we think all values lie in human options and preferences.

### 3. Species

Living organisms are on their own. They are also members of species lines. Humans are no doubt able to value biodiversity with instrumental uses, medically, agriculturally, industrially. But can there be intrinsic value at the species level? Can a species be value-able all by itself? That can seem puzzling. A species has no self defending its life. There is no analog to the nervous hookups or metabolisms that characterize individual organisms. So now we must ask whether singular somatic identity conserved is the only process that is valuable.

The species itself is a kind of particular, historic lineage. A species is another level of biological identity reasserted genetically over time. Identity need not attach solely to the centered or modular organism; it can persist as a discrete, vital pattern over time. The life that the organismic individual has is something passing through the individual as much as something it intrinsically possesses. The genetic set, in which is coded the *telos*, is as evidently the property of the species as of the individual through which it passes. Value is something dynamic to the specific form of life. The species is a bigger event than the individual with its interests or sentience. If the predators are removed, and the carrying capacity is exceeded, wildlife managers may have to benefit a species by culling its member individuals.

Ecosystems evolve organisms that attend to their immediate somatic needs (food, shelter, metabolism) and that reproduce themselves in the very next generation. In the birth-death-birth-death system a series of replacements is required. Reproduction is typically assumed to be a need of individuals, but since any particular individual can flourish somatically without reproducing at all, indeed may be put through duress and risk or spend much energy reproducing, by another logic we can interpret reproduction as the species staying in place by its replacements. In this sense a female jaguar does not bear cubs to be healthy herself. Rather, her cubs are *Panthera onca* recreating itself by continuous performance.

A female animal does not have mammary glands nor a male testicles because the function of these is to preserve its own life; these organs are defending the line of life bigger than the somatic individual. The locus of the value that is defended over generations is as much in the form of life, since the individuals are genetically impelled to sacrifice themselves in the interests of reproducing their kind. The individual is a receptacle of the form, and the receptacles are broken while the form survives, but the form cannot otherwise survive.

The species line is the *vital* living system, the whole, of which individual organisms are the essential parts. The species defends a particular form of life,

pursuing a pathway through the world, resisting death (extinction), by regeneration maintaining a normative identity over time. The value resides in the dynamic form; the individual inherits this, exemplifies it, and passes it on. If so, what prevents value existing at that level? The appropriate survival unit is the appropriate location of valuing.

Species as historical lines have a defended biological identity, though they do not have any subjective experience. Species are quite real; that there really is a jaguar-jaguar-jaguar sequence is about as certain as anything we believe about the empirical world. Species are lively and full of life; they are processes; they have a kind of unity and integrity. The species line too is value-able, able to conserve a biological identity. Indeed it is more real, more value-able than the individual, necessary though individuals are for the continuance of this lineage.

We said earlier that natural selection picks out whatever traits an organism has that are valuable to it, relative to its survival. But if we ask what is the essence of this value, it is not the somatic survival of the organismic individual; this value ability is the ability to reproduce. That locates value-ability innate or intrinsic within the organism, but it just as much locates the value-ability as the capacity to re-produce a next generation, and a next generation positioned to produce a next generation after that. Indeed, natural selection is rather careless with individuals; the test to which it puts them is whether they can pass on the historical lineage.

#### 4. Ecosystems

Individuals do not exist, except as members of species. Species, in turn, do not exist, except in niches in ecosystems. Life takes place in community. So we have to continue our inquiry about value, now at the ecosystem scale. "A thing is right," concluded Aldo Leopold, "when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise"<sup>1</sup>. Humans can value ecosystem communities instrumentally; they need sustainable ecosystems. But can ecosystems be the object of duty, because they are valuable all by themselves?

Again, there is a deeper worry, partly scientific and partly philosophical. Perhaps ecosystems exist in too loose a way to be valuers. They are nothing but aggregations of their more real members, like a forest is (some say) nothing more than a collection of trees. We can value collections, as of stamps, but this is just the aggregated value of individual stamps. Still, an ecosystem is rather different. Nothing in the stamp collection is alive; the collection is no community; it is neither self-generating nor self-maintaining.

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<sup>1</sup> Leopold (1968), pp. 224-225

We need ecology to discover what biotic community means as an organizational mode. Then we can reflect philosophically to discover the values there. An ecosystem has no brain, no genome, no skin, no self-identification, no telos, no unified program. It does not defend itself against injury or death. It is not irritable. So it can sometimes seem as if an ecosystem is too low a level of organization to be the direct focus of concern. Ecosystems do not and cannot care; they have no interests about which they or we can care.

But this is to misunderstand ecosystems, to make a category mistake. To fault *communities* as though they ought to be organismic *individuals* is to look at one level for what is appropriate at another. One looks for selection pressures and adaptive fit, not for irritability or repair of injury, for speciation and life support, not for resisting death. We must think more systemically, and less organismically.

An ecosystem generates a spontaneous order that envelopes and produces the richness, beauty, integrity, and dynamic stability of the component parts. Though these organized interdependences are loose in comparison with the tight connections within an organism, all these metabolisms are as vitally linked as are liver and heart. The equilibrating ecosystem is not merely push-pull forces. It is an equilibrating of values. The selective forces in ecosystems at once transcend and produce the lives of individual plants and animals.

Evolutionary ecosystems over geological time have increased the numbers of species on Earth from zero to five million or more. Superimposed on this, the quality of individual lives in the upper trophic rungs of ecological pyramids has risen. One-celled organisms evolved into many-celled, highly integrated organisms. Photosynthesis evolved and came to support locomotion—swimming, walking, running, flight. Stimulus-response mechanisms became complex instructive acts. Warm-blooded animals followed cold-blooded ones. Neural complexity, conditioned behavior, and learning emerged. Sentience appeared—sight, smell, hearing, taste, pleasure, pain. Brains evolved, coupled with hands. Consciousness and self-consciousness arose. Persons appeared with intense concentrated unity. The products are valuable, able to be valued by these humans; but why not say that the process is what is really value-able, able to produce these values?

The system is a kind of field with characteristics as vital for life as any property contained within particular organisms. Philosophers, sometimes encouraged by biologists, may think ecosystems are just epiphenomenal aggregations. This is a confusion. Any level is real if there is significant downward causation. Thus the atom is real because that pattern shapes the behavior of electrons; the cell because that pattern shapes the behavior of amino acids; the organism because that pattern coordinates the behavior of hearts and lungs; the community because the niche shapes the morphology and behavior of

the jaguars within it. Being real requires an organization that shapes the existence and the behavior of member/parts.

Axiologically, in the more comprehensive levels, the terms "instrumental" and "intrinsic" need now to be expanded. Ecosystems have "systemic value." But if we want to know what is value-able, able to create value, why not say that it is the productivity of such ecosystems bringing into existence these phenomena that, when we arrive, we humans are able to value as the biodiversity of our planet. Values are intrinsic, instrumental, and systemic, and all three are interwoven. It would be foolish to value the golden eggs and disvalue the goose that lays them." It would be a mistake to value the goose only instrumentally. A goose that lays golden eggs is systemically valuable. How much more so is an ecosystem that generates myriads of species; or even, as we next see, an Earth that produces billions of species, ourselves included.

## 5. Earth

Viewing Earthrise, Edgar Mitchell, was entranced, "Suddenly from behind the rim of the moon, in long, slow-motion moments of immense majesty, there emerges a sparkling blue and white jewel, a light, delicate sky-blue sphere laced with slowly swirling veils of white, rising gradually like a small pearl in a thick sea of black mystery. It takes more than a moment to fully realize this is Earth... home"<sup>2</sup>. Michael Collins was earthstruck: "When I traveled to the Moon, it wasn't my proximity to that battered rockpile 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."<sup>3</sup>

Earth seen from space brings a moment of truth. This is the only biosphere, the only planet with an ecology. Earlier the challenge was to evaluate persons, animals, plants, species, ecosystems; but environmental valuing is not over until we have risen to the planetary level. Earth is really the relevant survival unit. Conservation biology requires conserving the biosphere. But valuing the whole Earth is unfamiliar and needs philosophical analysis. Can we have duties to our planet?

We may seem to be going to extremes. Earth is, after all, just earth. The belief that dirt could have intrinsic value is sometimes taken as a *reductio ad absurdum* in environmental philosophy. Dirt is vital to us but dirt is not the sort of thing that has value by itself. Put like that, we agree. An isolated clod defends no intrinsic value and it is difficult to say that it has much value in itself. But

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<sup>2</sup> Kelley (1988), at photographs, pp. 42-45.

<sup>3</sup> Collins (1980), p. 6.

that is not the end of the matter, because a clod of dirt is integrated into an ecosystem; earth is a part, Earth the whole. Dirt is product and process in a systemic nature. We should try to get the global picture, and switch from a lump of dirt to the Earth system in which it has been created.

Earth is, some will insist, a big rockpile like the moon, only one on which the rocks are watered and illuminated in such way that they support life. So maybe it is really the life we value and not the Earth, except as instrumental to life. We do not have duties to rocks, air, ocean, dirt, or Earth; we have duties to people, or living things. We must not confuse duties to the home with duties to the inhabitants. Conservation is for people, not an end in itself.

But this is not a systemic view of what is going on. We need some systematic account of the valuable Earth we now behold, before we beheld it, not just some value that is generated in the eye of the beholder. Finding that value will generate a global sense of obligation. The evolution of rocks into dirt into fauna and flora is one of the great surprises of natural history, one of the rarest events in the astronomical universe. Earth is all dirt, we humans too arise up from the humus, and we find revealed what dirt can do when it is self-organizing under suitable conditions. This is pretty spectacular dirt.

Really, the story is little short of a series of "miracles," wondrous, fortuitous events, unfolding of potential; and when Earth's most complex product, *Homo sapiens*, becomes intelligent enough to reflect over this cosmic wonderland, everyone is left stuttering about the mixtures of accident and necessity out of which we have evolved. For some the black mystery will be numinous and signal transcendence; for some the mystery may be impenetrable. Perhaps we do not have to have all the cosmological answers. Nobody has much doubt that this is a precious place, a pearl in a sea of black mystery.

We will not be valuing Earth objectively until we appreciate this marvelous natural history. This really is a superb planet, the most valuable entity of all, because it is the entity able to produce all the Earthbound values. At this scale of vision, if we ask what is principally to be valued, the value of life arising as a creative process on Earth seems a better description and a more comprehensive category.

Do not humans sometimes value Earth's life-supporting systems because they are valuable, and not always the other way round? Is this value just a matter of late-coming human interests? Or is Earth not historically a remarkable, valuable place, a place able to produce value prior to the human arrival, and even now valuable antecedently to the human uses of it? It seems parochial to say that our part alone in the drama establishes all its worth. The production of value over the millennia of natural history is not something subjective that goes on in the human mind. In that sense, a valuable Earth is the foundational value. The creativity within the natural system we inherit, and the values this

generates, are the ground of our being, not just the ground under our feet. Earth could be the ultimate object of duty, short of God, if God exists.

## 6. Humans

But humans, you will object, are getting too much left out of this global picture. After all, even if there are some values out there in nonhuman nature, humans are on top of the value pyramids. They count most of all, and beside them any intrinsic values in wild animals, or plants, or species lines, or even ecosystems are relatively insignificant. Humans are the only evaluators who can reflect about what is going on, who can deliberate about what they ought to do conserving it. When humans do this, they must set up the scales; and humans are the measurers of things. So what really counts is people, and what they have at stake on their landscapes.

In practice, as well as in principle, we must put humans at the center of conservation. Be pragmatic about it; no conservation policy can succeed unless people get persuaded that it is in their best interests. Intrinsic value in nature can never outweigh our own enlightened self-interests. Humans are going to look out after themselves; they are never going to pay much attention to intrinsic values in nature.

But maybe this insisting on our privileges at the center of the picture is another of those half truths that skews all the answers. The surprise of the last century, and the lesson still to be learned as we enter the millennium, is that nature is always with us late and soon. Nature is the milieu of culture. Nature is the womb of culture, but a womb that humans never entirely leave. The four critical items on our human agenda are: population, development, peace, and environment. All are global; all are local; all are inter-twined; in none have we modern humans anywhere yet achieved a sustainable relationship with our Earth. Perhaps the deepest trouble is this forever putting ourselves first, never putting ourselves in place in the fundamental biosphere community in which we reside. If we ask, What is the matter?, the deepest problem may be this conviction that nothing matters unless it matters to us.

Our welfare, our well-being is a matter of living in sustainable communities, human and natural; this flourishing requires policies and behavior that keep population and development in harmony with landscapes. It is going to be difficult to keep peace with each other, until we are at peace with our environment. What we want is not just "riches," but a "rich life," and appropriate respect for the biodiversity on Earth enriches human life. There is something subjective, something philosophically naive, and even something hazardous in a time of ecological crisis, about living in a reference frame where one species

takes itself as absolute and values every thing else In nature relative to its potential to produce value for itself.

Humans belong on the planet; they will increasingly dominate the planet. But we humans, dominant though we are, want to be a part of something bigger, and this we can only do by sometimes drawing back to recognize the intrinsic values in nature. Unless and until we do this, we cannot truly know who we are and where we are. *Homo sapiens*; we have called ourselves, the wise species. But none of us can truly be wise in ignorance of the intrinsic values in nature.

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