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Naturalizing Callicott

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Philosophy, the "love of wisdom," becomes troublesome when friends and truth conflict. Aristotle responded to Plato that, especially when considering the good, both are dear, but our duty "requires us to honor truth above our friends."¹ Baird Callicott is a longtime friend whose philosophy I much respect, but the truth is dearer than Callicott. Because Callicott is also a Platonist scholar, he will remember the Aristotelian duty to prefer truth to friendship. Callicott, although a dear friend, is I fear, a doubtful guide at rather critical turning points and has gotten himself lost. He cannot find values in nature, not intrinsically. Indeed, at times he cannot find nature at all, not original nature, only a nature commingled with culture. So, paradoxically, we need to get Callicott, although he thinks of himself as a naturalist, really naturalized.

A pity, too, that he loses his way, because he and I travel together over much of the landscape of environmental philosophy and policy, unfamiliar terrain that he and I (and increasingly many others) have been exploring for a quarter of a century. I cannot follow him in his arguments (1) about nature and culture, or (2) about intrinsic natural value. All good scholars know that an attack on argument differs from an attack on persons. Because Callicott earlier took it upon himself to "deconstruct Rolston,"² perhaps now it is my turn to "reconstruct Callicott."

NATURE AND CULTURE

Callicott is anxious not to be a dualist, especially not a Cartesian dualist, which he thinks characterizes Enlightenment and modern thought and is one of the causes of environmental crises. Thinkers who distinguish between nature and culture are such dualists, working in the legacy of matter and mind

because they think that the cultures produced deliberately by human minds are something different from the productions of spontaneous nature, the latter resulting from the self-organizing causal processes of energetic matter.

Callicott desires a new concept of nature that includes culture. "The modern picture of nature is false and its historical tenure has been pernicious. A new dynamic and systemic postmodern concept of nature, which includes rather than excludes human beings, is presently taking shape."³ He would probably say he wishes to naturalize culture. Callicott puts this provocatively: "We are animals ourselves, large omnivorous primates, very precocious to be sure, but just big monkeys, nevertheless. We are therefore a part of nature, not set apart from it. Chicago is no less a phenomenon of nature than is the Great Barrier Reef."⁴ That ought to cure us from the "sharp dichotomy between man and nature," which has too long been a feature alike of religion and philosophy, "both wellsprings of the Western intellectual heritage."⁵

If one is a metaphysical naturalist, as Callicott seems to be, then whatever is, is natural. In this respect he does not differ from many modernists, who are often also metaphysical naturalists, as some ancient thinkers also were. In this sense, the word *natural* has no contrast class, at least none occupied by any existing thing. Other metaphysicians might hold, for example, that the supernatural exists, contrasting with the natural. There might be supernatural things going on in Chicago, in the churches. But Callicott is not entering this debate. He wants to claim, as a helpful insight in environmental ethics, that humans are natural, their culture (exemplified in Chicago) is quite natural (as much as the Great Barrier Reef). Realizing this "might even help to disseminate broadly an ecological world view and an associated environmental ethics."⁶

The trouble is that, outside of metaphysics, a word becomes useless if it has no contrast class. Naturalizing everything delimits nothing. In environmental ethics it seems rather necessary to mark off what happens in wild spontaneous nature from what happens as a result of humans in their cultural activities, that is, in significant measure at least, to set humans apart from nature. Otherwise, we are not going to get any helpful analysis, such as might guide human conduct, by inquiring whether *x* is natural because any and all cultural activities will be natural activities as well (setting aside any supernatural events).

Naturalizing everything overnaturalizes too much. The products of Chicago industries, such as compact disks and Styrofoam cups, are natural just as much as coral reefs with their polyps and fishes. Corporate executives deciding to break the standards of the Clean Water Act and polluting Lake Michigan, are behaving in accord with nature as much as those deciding to meet or

exceed the standards to preserve the integrity of the waters. Or as clams feeding underwater off the coast of Australia,

Callicott is sensitive to this problem, and he separates desirable from undesirable human behaviors by asking whether they are healthy, not whether they are natural (because they are all natural). Doubtless that will give some of the needed guidance. But whose health do we seek? Our human health? Callicott replies, rather, that we seek ecosystem health, assuming that this supports human health, which is ordinarily a quite reasonable assumption. Health is not just a skin-in matter; it is a skin-out matter. One cannot be healthy in a sick environment. Aldo Leopold wrote of our "responsibility for the health of the land."⁷

But human health might also permit or even require some rather radically transformed natural systems, making tall grass prairies into cornfields and short grass prairies into wheat fields. The prairies of the Midwest can be quite healthy ecosystems even if the whooping cranes go extinct. "An ecological system is healthy and free from 'distress syndrome' if it is stable and sustainable—that is, if it is active and it maintains its organization and autonomy over time and is resilient to stress."⁸ Yes, that sounds plausible and desirable, but where is the place for cultural alterations of landscapes?

A disanalogy exists between humans wishing bodily health and landscape health. A person prefers bodily natural health. We repair breakdowns, but we do not rebuild the healthy body. We only go to doctors when we are sick. By contrast, we do not want entirely natural ecosystems, healthy though they might be, and nothing more. If we are to have any culture at all, especially a modern culture, we must transform wild nature into rebuilt environments. We constantly labor to make something better (judged by our cultural standards) out of wild nature, not just healing something sick. We do not revise our bodies as we revise wild nature.

A flourishing culture requires revamping much of wild nature. However, if this goes too far, then the natural system can collapse. We have to identify a pristine biological integrity, wild healthy environments, present ideally in wilderness areas, hopefully in protected areas, and contrast that with a culturally modified biological health, which we will try to maintain all over the landscape. But all this requires the distinction between nature and culture that Callicott has denied us.

Ought there to be any prairies saved for what they are in themselves, with a flourishing population of whooping cranes, preserved as healthy nature apart from its healthy support of culture and agriculture? This question cannot be addressed without specifying in more detail whose health is involved; and, sometimes at least, the health of wild natural ecosystems and their mem-

bers may be at stake, not just that of humans in their cultures. This again requires the forbidden distinguishing of nature from culture. The most we could do might be to include the cranes and the wild prairies somewhere in our desires for quality of life. But if we had some other desires, the cranes and the prairies could go, assuming we kept the healthy cornfields and wheat fields.

Nature differs from culture, and vice versa, in ways we need to specify. The problem is that, anxious not to be a dualist, Callicott is not discriminating enough to see that although humans evolve out of nature and its processes, they significantly evolve *out of it*. That can confuse him and others into saying that humans are just natural because they are products of various natural laws and events operating through evolutionary history, and because their origins were natural, they continue to be natural. But that is to fall into a "nothing but" fallacy (more accurately, the genetic fallacy), which confuses what a thing now essentially is with what its historical origins once were. It cannot take emergence seriously. Environmental philosophy needs to see the difference in being human, and only after we get clear about that, do we also want to see the senses in which, although evolved out of it, culture has to remain in relative harmony with nature.

Humans superimpose cultures on the wild nature out of which they once emerged with radical innovations, leading to the contrast we regularly make in ordinary language, between the natural and the artifactual, between a clam in the Great Barrier Reef and a Styrofoam cup in Chicago. The difference in ordinary language is catching something significant, something of which we need to take account (regardless of whether one is a metaphysical naturalist). Culture does introduce emergent novelties not previously present in wild nature.

Information in wild nature travels intergenerationally on genes; information in culture travels neurally as persons are educated into transmissible cultures. Although the higher animals can learn limited behaviors from parents and conspecifics, animals do not form cumulative transmissible cultures. In nature, the coping skills are coded on chromosomes. In culture, the skills are coded in craftsman's traditions, religious rituals, or technology manuals. Information acquired during an organism's lifetime is not transmitted genetically; the essence of culture is acquired information transmitted to the next generation.

Information transfer in culture can be several orders of magnitude faster and overleap genetic lines. A typical couple may have only two or three children who inherit their genetic information. But those children are educated by taking classes from dozens of teachers, by reading hundreds of books,

using libraries with tens of thousands of books, written by authors to whom they are genetically quite unrelated and who may have been dead for centuries. The children learn from television programs with information coining from all over the world. A human being develops typically in one of some ten thousand cultures, inheriting a heritage that is historically conditioned, perpetuated by language, conventionally established, using symbols with locally effective meanings. Cultures may exchange ideas; sometimes people are reared at the crossroads of cultures; well-educated persons choose and criticize their cultures.

Animals are what they are genetically, instinctively, and environmentally without any options in what they shall be at all, even if they do make some limited choices. Humans have myriad lifestyle options, evidenced by their cultures, and each human makes daily decisions that affect his or her character. The highly deliberative character of human actions is without real precedent in nature, even though animals may have some precursor options in what they shall do. Natural selection pressures are relaxed in culture. As a result of their reflective deliberations, humans help each other out compassionately with charity, affirmative action, or Head Start programs. They study medicine to cure their bodily diseases. The determinants of animal and plant behavior, much less the determinants of climate or nutrient recycling, are never anthropological, political, economic, technological, scientific, philosophical, ethical, or religious. Little or nothing in wild nature approaches all this. If we are going to evaluate what natural and cultural values we want to treasure, we must appreciate and criticize human affairs with insight into their radically different character.

We might want, for instance, to insist, as I will in the argument to follow, *contra* Callicott, that intrinsic wild values exist that are not human values. Just because the human presence is so radically different, humans ought sometimes to draw back and let nature be. If so, we will have to debate whether all values are anthropocentric (human-centered), as Callicott thinks not, or anthropogenic (human-generated), as Callicott thinks—or at least used to think. But all this is quite outside the capacity of plants and animals. Humans can and ought see outside their own sector; they can relate their species self-interest to other natural values. And only humans have conscience enough to do this; indeed, it seems likely that only humans have conscience at all.

These contrasts between nature and culture were not always as bold as they now are. Once upon a time, culture evolved out of nature. The early hunter-gatherers had transmissible cultures but, sometimes, were not much different in their ecological effects from the wild predators and omnivores among whom they moved. Cultural discoveries are cumulatively transmissible; we

would expect early cultures to have limited technologies. As culture grows, more and more power accumulates to rebuild and alter nature, more skills and information are transmitted. A few aboriginal peoples may remain today, with low-power technologies, although even they probably have accumulated rather complex cultures. But we now do not and cannot live in such a twilight society. Any society that we envision must be scientifically sophisticated, technologically advanced, globally oriented, as well as (we hope) just and charitable, caring for universal human rights and for biospheric values. This society will try to fit itself in intelligently with the ecosystemic processes on which it is superposed. But they are not going to be helped in doing so by thinking of themselves as nothing but precocious monkeys in a Chicago jungle. Over-naturalizing human affairs is not the answer.

INTRINSIC NATURAL VALUE

Although Callicott is resolute about not being a dualist and separating humans from nature, he nevertheless makes a rather striking separation between humans and plants or animals. According to his value theory, nature comes to have intrinsic value only on human encounter and habitation. At least that has been his characteristic claim, although as we see later, he sometimes modifies it to include some related vertebrates. This first connects humans with nature and that seems promising, but, alas, this also prevents disconnecting nature from humans so that it can have any intrinsic value on its own—and that is disconcerting. Nature only comes to have such value when humans take it up into their experience.

Suddenly, the dichotomy comes back with a vengeance. Only humans produce value; wild nature is intrinsically valueless without humans. All it has without humans is the potential to be evaluated by humans, who, if and when they appear, may incline, sometimes, to value nature in noninstrumental ways. Maybe there is no metaphysical difference of substance or process; human activities and those in wild nature are equally natural. But there is an axiological difference of value; only humans can value anything in this way. That is quite separatist. Maybe we humans are metaphysically different after all, in process if not in substance, if we have such a remarkably different capacity.

Callicott is quite clear about our unique value-ability. All intrinsic value is "grounded in human feelings" but is "projected" onto the natural object that "excites" the value. "Intrinsic value ultimately depends upon human valuers." "Value depends upon human sentiments."⁹ We humans can and ought *place*

such value on natural things, at times, but there is no value already *in place* before we come. Intrinsic value is our construct, interactively with nature, but not something discovered that was there before we came, "There can be no value apart from an evaluator, ... all value is as it were in the eye of the beholder [and]... therefore, is humanly dependent."¹⁰ Such value is "anthropogenic."¹¹

The *source* of all value is human consciousness, but it by no means follows that the locus of all value is consciousness itself. ... An intrinsically valuable thing on this reading is valuable *for* its own sake, *for* itself, but it is not valuable *in* itself, i.e. completely independently of any consciousness, since no value can in principle ... be altogether independent of a valuing consciousness. ... Value is, as it were, projected onto natural objects or events by the subjective feelings of observers. If all consciousness were annihilated at a stroke, there would be no good and evil, no beauty and ugliness, no right and wrong; only impassive phenomena would remain.¹²

This, Callicott says, is a "truncated sense" of value where "'intrinsic value' retains only half its traditional meaning." At the same time, "value is, to be sure, humanly conferred, but not necessarily homocentric."¹³

The word *project* here needs analysis. Motion picture projectors project an image when light travels from the projector to the screen, but we are not here to think of a value-bestowing ray. Nothing travels from the human valuer to the natural object. Rather, humans value trees somewhat like they color them green. The greenness of the tree is in my head, but it looks as though the tree is green. Out there are only electromagnetic waves of 550 nanometers. The greenness is projected, manufactured in my head and apparently hung onto the tree. Dogs, with black and white vision, project no greenness onto the same tree. I have no options about the greenness; I do have options about the valuing—to some extent. I can see the tree as board-feet of timber or a poem (Joyce Kilmer), I can value it as an instrument to satisfy my desires or I can see it as having intrinsic value.

In all this nothing travels from the human to the tree. The "projection" is better called a "translation." The "value conferring" does not transmit anything to the tree, and in that sense the value never really gets outside of the human head. The tree is *sending* and the human is *receiving*. The human is not really doing any sending, nor the tree any receiving. The incoming signals from the tree are "translated" as green, and so the tree appears green. In one sense this is an illusion; in another it is not. There is no experience of green in the tree, but there is ample reality (radiation) out there, behind and exciting

my experience. My coloring the tree green is mapping what is really there, although my mind is translating as it maps. My "finding" of intrinsic value in nature is to be modeled after my "finding" green. (Green insects, camouflaged on the leaves, are protected from predators who, although they have no experience of green, have other sense modalities that catch electromagnetic signals and distinguish wavelengths).

To say that a natural x is valuable means that x is able to be valued if and when (human) valuers come along, but x has this property whether humans (or other valuers) ever arrive. To say that something is intrinsically valuable means that it is of such kind that were valuers to arrive they might value it intrinsically rather than instrumentally. The trilobites that went extinct before humans evolved were (potentially) intrinsically valuable. Undiscovered species on Earth now or on uninhabited planets are intrinsically valuable in this potential sense.

By this account no actual value ownership is autonomous to the valued and valuable wildflower; there is a value ignition when humans come. The object plays its necessary part, although this is not sufficient without the subject. Out there, apart from humans, there is only "a range of *potential* values in nature actualizable upon interaction with consciousness."¹⁴

Notice that, although anthropogenic, value is not necessarily anthropocentric. Value is not self-regarding, or even human-regarding, merely, although it is human-generated (anthropogenic). It is not centered on human well-being, although it is still tethered to human experience. Sometimes humans value nature instrumentally, as when they want soil to grow crops. Sometimes humans value nature intrinsically, as when they save endangered lemurs, refusing to convert a lemur forest sanctuary into cropland. But this is always humans doing the valuation: anthropocentric if the decision is for croplands, but still anthropogenic if the decision is for lemurs. Wild nature is value free and only becomes valuable when humans evaluate it. Also, humans err; they can (and often do) value wildflowers and lemurs insufficiently; they fail to appreciate how they can and ought to value these things in themselves.

This compromise account is certainly to be welcomed over less enlightened humanistic accounts. It affords enormously more environmental respect and protection than weaker theories. Only human beings value (evaluate) natural things; but it does not follow that when human beings do value (evaluate) things, they conclude that only humans have value. Man is the only measurer of things, but man does not have to make himself the only measure he uses. If we do, we will miss much richness in natural values. Still, values in nature have in fact been "truncated," and that is unwelcome; we may still be missing much of the richness of value in nature. This is not yet a genuinely bi-

ological or ecological theory of value, but residually a psychological one, which has to keep these humanistic bridges connecting with people as it enters the terrain of environmental ethics. Surely it is anomalous to have the philosopher who values the "land" so much, who urges a "land ethic" so intensely, finding nothing of value in the "land" at all, until we humans place or project it there.

The problem is first one of language. Callicott may use the language of valuing nature for itself, but this is misleading; value is always and only relational with humans one of the *relata*. Despite the language of value projection and conferral, if we try to take the term *intrinsic* seriously, this cannot refer to anything the object gains, to something within ("intra") the object because the human subject does not really project anything to the natural object. We have only this "truncated sense" of intrinsic. All the attributes under consideration are objectively there before humans come, but the attribution of value is subjective. The object causally affects the subject, who is excited by the incoming data and translates this as value, after which the object appears as having value (and color). But nothing is really added intrinsically to the object at all; everything in the object remains what it before was. Despite the language that humans are the source of value that they locate in the natural object, no value is really located there. The only new event is that these properties are registered in—translated into felt values by—the perceptual apparatus of the beholder.

The term *intrinsic*, although claimed in a truncated sense for this view, is misleading. What is really meant is better specified by the term *extrinsic*¹⁵ the *ex* indicating the external, anthropogenic coagulation of the value, which is not *in*, *intrinsic*, internal to the nonsentient organism, even though this value, once-generated, is apparently conferred on the organism. This value is noncontributory in the sense that it is not used in some human reference frame, that is, not possessed in a rebuilt environment. The value is accepted, reflected, enjoyed just as it is. Still, human consciousness realizes this value in the organism, which the organism did not have before, but that on encounter with humans, it does come to have extrinsically.

The value-generating event is something like the light in a refrigerator—it is only on when the door is opened. Values in flora and nonsentient fauna are only "on" when humans are perceiving them and otherwise "off." This is said to be the ignition, or projection, of value, hitherto only potentially present. There are only "*potential* instrumental and intrinsic values in nature ... awaiting actualization by a conscious physical subject."¹⁶ But is not this like looking for time in the clock that measures it, looking for a birthday party in the camera that photographs it? I seem to be assuming that, among all the

phenomena in the universe, only one sort of thing, psychological interest, produces actual value intrinsically, although I recognize that myriad things present in the world before, during, or after the presence of (human) valuers can excite such value. Actual value was not lost when the various species of trilobites went extinct, nor is value lost now when unknown species in tropical forests go extinct, bulldozed away unawares to humans.

But this leaves us with an uneasy concern that, for all this seemingly generous talk about caring for others, about our placing value there, because it is only we who can place value anywhere, humans really do remain at the center of concern; their concern is central to having any value at all. Their concern is all that matters, and being concerned for animals or plants, or species or ecosystems that really do not matter in themselves is not always going to be easy. We are more likely to be concerned only if they matter to and for us, which places humans right back at the center. Nature is actually valuable only when it pleases, as well as serves, us. That seems to be the ultimate truth, even though we penultimately have placed intrinsic value on nature and take our pleasure enjoying these natural things for what they are in themselves. Without us there is no such pleasure taken in anything. What is value-able, able to value things, is people; nature is able to be valued only if such able people are there to do such valuing. Nature is not value-able—able to generate values—on its own, nor do plants and most animals have any such value-ability, on their own. Callicott has not really gotten his values naturalized, not yet.

Callicott does enter a caveat about whether such valuing is done by humans only. Anyone who observes animals will soon see that man is not the only measure, or measurer, of things. Those lemurs, on which we chose to confer intrinsic value, may appreciate our favor; they will also take a dim view of any such anthropogenic theory, no matter how generous, because lemurs, all by themselves, value insects and fruits instrumentally as food to eat. They do not behave as if these were anthropogenic values at all. They were doing these things before any humans came to Madagascar approximately 1,500 years ago. The value of the food they eat is not "humanly conferred." Lemurs cannot reflect on value theory, of course; they cannot self-consciously evaluate their value theory, but they can behaviorally demonstrate what they value. And humans, who can reflect on value theory, ought to be able to see that the lemurs are not valuing anthropogenically at all. They have their own ends. There is autonomous intrinsic value, not just anthropogenic intrinsic value.

Callicott has come to accept this point increasingly over the years; indeed he recognized this possibility from the start.¹⁷ Value, he now says is not always "anthropogenic"; it may sometimes be "vertebragenic, since nonhuman ani-

mals, all vertebrates at the very least, are conscious and therefore may be said, in the widest sense of the term, to value things."¹⁸ Well, that is a help because at least the vertebrates (including the lemurs) share in our ability to value things. But how do these fellow vertebrates value things? They value things instrumentally, no doubt, because they seek other plants and insects for food; they value water to drink, their dens for shelter, and so on.

Do they value anything intrinsically? Callicott does not address this question, but perhaps he would say (and I would agree) that a vertebrate animal values its own life intrinsically. The lemur defends its life as a good of its own; it desires to live its own life. Such life is valued without further contributory reference, even if boa constrictors in turn make use of lemurs for food. Perhaps the lemur can value its young intrinsically because the mother lemur puts herself at risk to bear young and values the ongoing species line.

Do these nonhuman vertebrates have our human capacity to place intrinsic value on other individual plants and animals, on species, or ecosystems other than themselves? Presumably not. No lemur is ever going to become concerned about valuing boa constrictors for what they are in themselves or saving that species line. Any vertebragenic value is going to be vertebracentric for just that species and no further. So it is humans alone who have this remarkable ability to value intrinsically something other than themselves.

Meanwhile, the vertebrates comprise a very small fraction of the animals, much less of the living things. What are we to say of the insects, or the worms, or the trees, or the wildflowers? Bees cannot value honey unless we can find enough neurons in them to provide consciousness. Plants cannot value their seeds, or the lives they defend, because they have no vertebrae or neurons at all. When we run out of psychological experience, value is over. That still leaves most of the world valueless because the vertebrates are only about 4 percent of the described species. Indeed, because most as yet undescribed species are not vertebrates and because the numbers of individuals in vertebrate species is typically much lower than the numbers of individuals in invertebrate species, or in plant species, real valuers form only some minuscule fraction of the living organisms on Earth. Nearly everything on Earth is still quite valueless, unless and until these humans come along and place intrinsic value there. As Callicott admits, until humans do this, "there simply is no inherent or intrinsic value in nature."¹⁹

All this seems to fall short of valuing what an ecosystem is in itself, a healthy, lively place whether or not we humans are around, full of animals and plants, including vertebrates, who are defending their own lives for what they are in themselves, each with their own modes of coping, only a few of whom have the capacity for consciously evaluating what they are doing. A powerful

emotion when leaving culture to return to nature is the sense of entrance into a natural place flourishing independently of any human presence. The forces by which natural systems run are not human forces; they are the biological and physical forces that have generated the world. Wild creatures are selected for their fitness in the places they inhabit; the wilderness is a complex tapestry of values with each living thing defending itself, with vital needs, and the whole system a network in which goods are circulated round and integrated into other goods through both conflict and complementarity. The natural history that envelops us is of value, not only because we humans place value there, but because value is there regardless of whether we value it.

By now we begin to suspect that the anthropogenic account of intrinsic value is a strained saving of what is really an inadequate paradigm, that of the subjectivity of value conferral. A thoroughgoing value theory in environmental ethics is more radical than this; it fully values the objective roots of value with or without their fruits in subjectivity. Sometimes to be radical is also to be simpler. The anthropogenic theory of intrinsic value insists on the subjectivity of value conferral while trying hard to preserve the object with all its properties. It admits that the exciting object is necessary for generating value.

A simpler, less anthropically based, more biocentric theory holds that some values are objectively there, discovered rather than generated by the subjectivist valuer. A fully objective environmental ethics can quite enjoy a "translator" when subjective appreciators of value appear. It can value such appreciation (experienced respect) more highly than untranslated objective value. Value appreciates (increases) with humans. But such an ethic does not insist on a human translator for value to be present throughout 99 percent of the creation. That commits a fallacy of the misplaced location of values. It has not yet naturalized value.

Trees may not be colored without a perceiver, but they do exist *per se*. Is their value like their color or their existence? Trees have their norms and needs, defenses, programs; these are factors in their existence, and so value, coupling with existence defended, is not an analog of color after all. Trees do appear to be green and perhaps we do not want to call the electromagnetic waves actually there "greenness." Trees are also valuable in themselves, able to value themselves; they stand on their own. By contrast with "greenness," we do want to say that "treeness" is objectively there, the tree with its life project defended. We want to call this valuable regardless of what "seems" to us. Some values are already there, discovered not generated by the valuer because the first project here is really the natural object, nature's project; the principal projecting is nature creating formed integrity. Beside this, the human projecting of value is an epiphenomenon. The theory of anthropogenic intrinsic value needs to give place to a theory of autonomous intrinsic value.

Natural selection picks out whatever traits an organism has that are valuable to it, relative to its survival. When natural selection has been at work gathering these traits into an organism, that organism is able to value on the basis of those traits. It is a valuing organism, even if the organism is not a sentient valuer, much less vertebrate, much less a human evaluator. And those traits, although picked out by natural selection, are innate in the organism, that is, stored in its genes. Dissociating the idea of value from natural selection is difficult.

Any sentient, psychogenic, vertebragenic, or anthropogenic theory of value has got to argue away all such natural selection as not dealing with "real" value at all, but mere function. Those arguments are, in the end, more likely to be stipulations than real arguments. If you stipulate that valuing must be felt valuing, that there must be somebody there, some subject of a life, then trees are not able to value; their leaves and thorns are no good to them and that is so by your definition. But what someone advocating a "land ethic," with its focus on members of biotic communities, wishes to examine is whether that definition, faced with the facts of biology, is plausible. Perhaps the sentientist definition covers correctly but narrowly certain kinds of higher animal valuing, namely that done by humans and their vertebrate relatives, and omits all the rest.

Callicott seems to be misled by thinking that all relationships can be modeled after a particular reading of quantum theory in which the observer interacts with what is observed. From this he draws sweeping conclusions:

Mass and motion, color and flavor, good and evil, beauty and ugliness, all alike, are equally potentialities which are actualized in relation to us or to similarly constituted organisms. ... No properties in nature are strictly intrinsic, that is, ontologically objective and independent of consciousness. Borrowing now from the vocabulary of quantum theory, we may assert, rather, that values are virtual. Virtual value is an ontological category encompassing all values. Within its purview fall the entire spectrum of instrumental and inherent values. ... Inherent value is a virtual value in nature actualized upon interaction with consciousness.²⁰

That is implausible. Yes, the tree is not experienced as colored green until interacting with consciousness. But the tree is photosynthesizing. The activity and the energy captured and stored metabolically is valuable to the tree quite ontologically objectively and independently of any consciousness, human or otherwise. There is nothing virtual about that. Perhaps the food in the refrigerator is not colored until we open the door; perhaps it is not tasty until we consume it. But the energy stored in the potatoes was there in the dark, and it

was first put into the potato underground because it was of value to the plant, whether any humans or other conscious evaluators even came on scene.

Callicott holds that in a modern scientific perspective, a tree's goodness is not more objective than its greenness. If one "grants that there are independent ('free-standing') objects and correspondingly independent subjects, and primary qualities and secondary qualities... all the argument in the world to the effect that goodness is more objective than greenness is going to look like a magic show, brought off with smoke and mirrors."²¹ Callicott wishes to be postmodern rather than modern, of course, but he continues the same line of argument. "After thinking very hard, during the mid-1980s, about the ontology of value finally I came reluctantly to the conclusion that intrinsic value cannot exist objectively."²² There is "no 'truth' or 'falsity' to value judgments, since there are no objective or intrinsic values to which value judgments may or may not correspond."²³

But my reply is that photosynthesis is indeed more objective than greenness, and that this is exactly what modern science teaches, not to be undone by some postmodern smoke and mirrors. Photosynthesis is quite true, and quite valuable to the tree, and all this quite objective. Quantum theory does not make photosynthesis subjective in the slightest. What is good for a tree (nitrogen, carbon dioxide, water) is observer-independent. This leads at once to the fact that the good of the tree (whether it is injured or healthy) is equally objective. The tree's defense of its own life, its coping based on DNA coding, is quite objective (even if, no doubt, there is some observer construction in the theories and instruments by which all this is known). The sequoia tree has, after all, been there 2,000 years, whether any green-experiencing humans were around. *Sequoia sempervirens*, the species line, has been around several million years, with each of its individual sequoia trees defending a good of their kind.

Those who value wild nature, having discovered the intrinsic natural values that we have been defending, wish to preserve natural processes as well as natural products. Humans can and ought to see outside their own sector and affirm nonanthropogenic, noncultural values. Only humans have the cognitive power to erect cultures that destroy wild nature. Humans must, and ought to, destroy wilderness when they build their cultures; neither agricultural nor urban lands can be wilderness. At the same time, only humans have conscience. That conscience emerges for the building of culture to relate humans to other humans with justice and love, but it also emerges—so environmental ethicists are now arguing—for the relating of humans to nature, to the larger community of life on the planet. That relationship, governed by conscience (and also by pragmatic self-interest), requires a harmonious blending of na-

ture and culture, where this is possible. The same conscience also generates a duty that respects wild nature at some times and places for values present there independently of humans.

So the problem with Callicott, repeatedly, is to get his environmental philosophy really naturalized. He so resolutely opposes dichotomizing humans and nature that he cannot find any integrity for nature on its own. He remains, for a would-be naturalist, surprisingly humanistic—with people projecting their values onto nature, with people managing their landscapes. No doubt this is indeed required; it is half the truth in environmental ethics. But it is not the whole truth.

NOTES

1. *Nicomachean Ethics*, 1096a.
2. J. Baird Callicott, "Rolston on Intrinsic Value: A Deconstruction," *Environmental Ethics* 14 (1992): 129-143.
3. J. Baird Callicott, "La Nature est morte, vive la nature!" *Hastings Center Report* 22, no. 5 (September/October 1992): 16-23, citation on p. 16.
4. Callicott, "Nature," 17.
5. Callicott, "Nature," 16.
6. Callicott, "Nature," 16.
7. Aldo Leopold, *A Sand County Almanac* (New York: Oxford University Press, 1968), 221.
8. Robert Costanza, Bryan G. Norton, and Benjamin D. Haskell, *Ecosystem Health: New Goals for Environmental Management* (Washington, D.C.: Island Press, 1992), 9.
9. J. Baird Callicott, "Non-anthropocentric Value Theory and Environmental Ethics," *American Philosophical Quarterly* 21 (1984): 299-309, citation on p. 305.
10. J. Baird Callicott, *In Defense of the Land Ethic* (Albany, N.Y.: SUNY Press, 1989), 26. From "Animal Liberation: A Triangular Affair," *Environmental Ethics* 2 (1980): 311-338.
11. Callicott, "Rolston," 132.
12. Callicott, *In Defense*, 133-134, 147. From "On the Intrinsic Value of Non-human Species," in *The Preservation of Species*, ed. Bryan G. Norton (Princeton, N.J.: Princeton University Press, 1986), 138-172.
13. Callicott, *In Defense*, 133-134, 151. For "truncated intrinsic value," see also Callicott, "Rolston," 132.
14. Callicott, "Rolston," 129.
15. This is the traditional terminology, "No objective existent has strictly intrinsic value; all values in objects are extrinsic only. ... The goodness of good objects consists in the possibility of their leading to some realization of directly experienced goodness." C. I. Lewis, *An Analysis of Knowledge and Valuation* (LaSalle, Ind.: Open Court, 1946), 307. All that nonsentient organisms offer is the standing possibility of valuation; they do not have intrinsic value, nor do they gain it by human conferral.

16. Callicott, "Rolston," 140.
17. Callicott, *In Defense*, 26.
18. Callicott, "Rolston," 132, 138.
19. Callicott, *In Defense*, 160.
20. Callicott, *In Defense*, 169-170.
21. Callicott, "Rolston," 138.
22. Callicott, "Rolston," 132.
23. Callicott, *In Defense*, 164.