

# Can and Ought We to Follow Nature?

Holmes Rolston, III\*

“Nature knows best” is reconsidered from an ecological perspective which suggests that we ought to follow nature. The phrase “follow nature” has many meanings. In an absolute law-of-nature sense, persons invariably and necessarily act in accordance with natural laws, and thus cannot but follow nature. In an artifactual sense, all deliberate human conduct is viewed as unnatural, and thus it is impossible to follow nature. As a result, the answer to the question, whether we can and ought to follow nature, must be sought in a relative sense according to which human conduct is sometimes more and sometimes less natural. Four specific relative senses are examined: a homeostatic sense, an imitative ethical sense, an axiological sense, and a tutorial sense. Nature can be followed in a homeostatic sense in which human conduct utilizes natural laws for our well-being in a stable environment, but this following is nonmoral since the moral elements can be separated from it. Nature cannot be followed in an imitative ethical sense because nature itself is either amoral or, by some accounts, immoral. Guidance for inter-human ethical conduct, therefore, must be sought not in nature, but in human culture. Nevertheless, in an axiological sense, persons can and ought to follow nature by viewing it as an object of orienting interest and value. In this connection, three environments are distinguished for human well-being in which we can and ought to participate—the urban, the rural, and the wild. Finally, in a tutorial sense, persons can and ought to follow nature by letting it teach us something of our human role, our place, and our appropriate character in the natural system as a whole. In this last sense, “following nature” is commended to anyone who seeks in his human conduct to maintain a good fit with the natural environment—a sense of following nature involving both efficiency and wisdom.

## INTRODUCTION

“Nature knows best” is the third law of ecology according to Barry Commoner and the gravity of his claim is underlined by its ranking with the first two, that everything is interconnected and that nothing is ever destroyed, only recycled.<sup>1</sup> But this third law is curiously normative, not merely describing what nature does, but evaluating it, and implying that we

\* Department of Philosophy, Colorado State University, Fort Collins, CO 80523. Rolston teaches philosophy including a course on environmental ethics. His research interests are concentrated on philosophical, religious, and scientific conceptions of nature. He is a backpacker and amateur botanist with an interest in bryophytes.

1. Barry Commoner, *The Closing Circle: Nature, Man & Technology* (New York: Alfred A. Knopf, 1972), p. 41.

ought to follow nature. Such following may ordinarily be more prudential than moral for Commoner, but for others, if not for him too, the deepest commands of nature reach the ethical level. Radcliffe Squires writes of Robinson Jeffers, "To direct man toward a moral self by means of the wise, the solemn lessons of Nature: that has been Jeffers' life work."<sup>2</sup>

But there are dissenting voices. We have for too long thought of "Mother Nature" as "sensitive, efficient, purposeful, and powerful," laments Frederick E. Smith, a Harvard professor of resources and ecology. She does not exist; nature is adrift. "This absence of 'goal' in the world systems is what makes the concept of Mother Nature dangerous. In the final analysis nothing is guiding the ship."<sup>3</sup> This, of course, exempts us from following nature—to the contrary, we must take control of our aimless ecosystem. And, again, if this is for Smith more a matter of prudence than of morality, another earlier Harvard professor noted with intensity the moral indifference of nature. Coining a memorable phrase, William James called us to "the moral equivalent of war" in our human resistance to amoral nature:

Visible nature is all plasticity and indifference,—a moral multiverse . . . and not a moral universe. To such a harlot we owe no allegiance; with her as a whole we can establish no moral communion; and we are free in our dealing with her several parts to obey or to destroy, and to follow no law but that of prudence in coming to terms with such of her particular features as will help us to our private ends.<sup>4</sup>

Those with a philosophical memory will see that the environmental debate reconnects with a longstanding problem in the ethics of nature, and recognize the two camps into which those before us have so often divided, the one setting human conduct morally and valuationally in essential discontinuity with our environment, the other finding continuity there. John Stuart Mill stands within one paradigm: "Conformity to nature has no connection whatever with right and wrong."<sup>5</sup> Ralph Waldo Emerson represents the other: "Right is conformity to the laws of nature so far as they

2. Radcliffe Squires, *The Loyalties of Robinson Jeffers* (Ann Arbor: University of Michigan Press, 1956), p. 134.
3. Frederick E. Smith, "Scientific Problems and Progress in Solving the Environmental Crisis" (Address delivered at conference on "Environment, the Quest for Quality," Washington, D.C., February 19, 1970), pp. 3, 5.
4. William James, "The Moral Equivalent of War," in *Memories and Studies* (New York: Longmans, Green, and Co., 1911), pp. 267-96; "Is Life Worth Living?" in *The Will to Believe* (New York: Longmans, Green, and Co., 1896), pp. 43-44.
5. John Stuart Mill, "Nature," in *Collected Works*, 19 vols. (Toronto: University of Toronto Press, 1963-77), 10:400.

are known to the human mind.”<sup>6</sup> Sometimes old debates can be thrown into fresh perspective by more recent insights and discoveries. Of late, having become ecologically aware, can we say anything more about the question, “Can and ought we to follow nature?”

Much of the puzzle is in the way we use that grand word *nature* and here an analysis of our language is necessary. Still, it is not a sufficient answer to the question. The issue will finally turn on one’s sensitivities to value, and to what degree this can be found in the environment we address. We shall try here to disentangle the phrase “follow nature,” reaching in conclusion limited but crucial senses in which we both can and ought to follow nature. *Nature* is an absolutely indispensable English word, but there are few others with such a tapestry of meanings. In this respect it is like other monumental words round which life turns to such a high degree that we often capitalize them—*Freedom, the Good, the Right, Beauty, Truth, God, my Country, Democracy, the Church*—words that demand an ethical response, words that we cannot altogether and at once keep in logical perspective, but can only attack piecemeal, always reasoning out of the personal backing of our responsive perceptual experience. Earlier and in the foreground, we will put “following nature” into logical focus. But, later on and in the background, we can only invite the reader to share our moral intuitions. In ethics, Aristotle remarked, “The decision rests with perception.”<sup>7</sup>

Nature is whatever is, all in sum, and in that universal sense the word is quite unmanageable. Even the sense of the physical universe going back to the Greek *physis* is both too broad and too simple. We reach the meaning we need (which also recalls the sense of *physis*) if we refer to our complex earthen ecosphere—a biosphere resting on physical planetary circulations. Nature is most broadly whatever obeys natural laws, and that also includes astronomical nature. Used in this way the word has a contrast only in the supernatural realm, if such there is. But nevertheless we restrict the word to a global, not a cosmic sense, as our typical use of the word *nature* still retains the notion, coming from the Latin root *natus* and also present in *physis*, of a system giving birth to life. No one urges that we follow physicochemical nature—dead nature. What is invariably meant features that vital evolutionary or ecological movement we often capitalize as *Nature* and sometimes personify as *Mother Nature*.

In the present state of human knowledge we are not in any position to estimate the cosmic rarity or frequency of this motherhood on our planet. Perhaps it has regularly appeared wherever nature has been given proper opportunity to organize itself; if so, that would tell us a great deal about the tendency of nature. But it may be that all this vitality is but an eddy in the all-

6. Ralph Waldo Emerson, *Journals* (Cambridge, Mass.: Riverside Press, 1910), 3:208.

7. Aristotle *Nicomachean Ethics* 2. 8. 1109<sup>b</sup>23.

consuming stream of entropy. Although it seems that the stars serve as the necessary furnaces in which all the chemical elements except the very lightest are forged—elements foundational to any biosystem—we nevertheless know little about the contributions of astronomical nature to our local ecosystem. We draw many conclusions about universal nature based on our knowledge of physics and chemistry, but we are reluctant to do so with biology, for we do not like to project from only one known case. Furthermore, profound and mysterious though it is, astronomical nature is too simple. We know nature in its most sophisticated organization on Earth; so, we speak now only of that face of nature which has yielded our own flourishing organic community—eco-nature.

In what follows we distinguish seven senses in which we may follow nature—first, in general terms, an *absolute* sense, an *artifactual* sense, and a *relative* sense, and then, in more detail, four specific relative senses, a *homeostatic* sense, an *imitative ethical* sense, an *axiological* sense, and finally a *tutorial* sense. We answer our basic question, whether we can and ought to follow nature, in terms of each.

#### FOLLOWING NATURE IN AN ABSOLUTE SENSE

Everything which conducts itself or is conducted in accordance with the laws of nature “follows nature” in a broad, elemental sense, and here it is sometimes asked whether human conduct does or ought to follow these laws. The human species has come into evolutionary nature lately and yet dramatically and with such upset that we are driven to ask whether persons are some sort of anomaly, literally apart from the laws that have hitherto regulated and otherwise still regulate natural events. No doubt our bodies have very largely the same biochemistries as the higher animals. But in our deliberative and rational powers, in our moral and spiritual sensitivities, we do not seem to run with the same mechanisms with which the coyotes and the chimpanzees so naturally run. These faculties seem to “free” us from natural determinisms; we transcend nature and escape her clutches.

Perhaps it is true that in their cultural life humans are not altogether subject to the laws of evolutionary nature. But we may immediately observe that humans are, in a still more basic sense, subject to the operation of these natural laws which we sometimes seem to exceed. If nature is defined as the aggregate of all physical, chemical, and biological processes, there is no reason why it should not *include* human agency. The human animal, as much as all the others, seems to be subject to all the natural laws that we have so far formulated. Although we live at a higher level of natural organization than any other animal, and even though we act as intelligent agents as perhaps no other animal can, there does not seem to be any law of nature that we violate either in our biochemistry or in our psychology. It is,

however, difficult to get clear on the logical connections, to say nothing of the psychosomatic connections, of agency with causation. In any case, insofar as we operate as agents on the world, we certainly do so by using rather than by exempting ourselves from laws of nature. No one has ever broken the laws of gravity, or those of electricity, nutrition, or psychology. All human conduct is natural inasmuch as the laws of nature operate in us and on us willy-nilly. We cannot help but follow nature, and advice to do so in this basic law-of-nature sense is idle and trivial even while some high-level questions about the role of human deliberation in nature remain open.

### FOLLOWING NATURE IN AN ARTIFACTUAL SENSE

Still, within this necessary obedience to the laws of nature humans do have options through agentive capacities. Submit we must, but we may nevertheless sometimes choose our route of submission. Something remains "up to us." We alter the course of spontaneous nature. That forces us to a second extreme—asking whether, in what we may call an *artifactual* sense, we can follow nature. The feeling that deliberation exempts us from the way that nature otherwise runs suggests the possibility that all agentive conduct is unnatural. Here nature is defined as the aggregate of all physical, chemical, and biological processes *excluding* those of human agency. What we most commonly mean by a natural course of events lies not so much in a scientific claim about our submission to natural laws as it does in a contrast of the natural with the artificial, the artifactual. Nature runs automatically and, within her more active creatures, instinctively; but persons do things by design, which is different, and we for the most part have no trouble distinguishing the two kinds of events. A cabin which we encounter hiking through the woods is not natural, but the rocks, trees, and the stream that form its setting are. A warbler's nest or a beaver's skull are natural while a sign marking the way to a lake or an abandoned hiking boot are not. These things differ in their architecture. The one kind is merely caused. The other kind is there for reasons.

By this account no human has ever acted deliberately except to interfere in the spontaneous course of nature. All human *actions* are in this sense unnatural because they are artifactual, and the advice to follow nature is impossible. We could not do so if we tried, for in deliberately trying to do so we act unnaturally.<sup>8</sup>

8. We take notice here of a common usage of *nature* in order to set it aside. The word is sometimes used in the sense of "not affected, spontaneous" and applied to conduct that is not studied or strained. Such conduct is not deliberated, not a result of intentional effort, and, hence, natural like the spontaneous course of non-deliberative nature. Notice that our senses of "follow" shift, although they all unfold from the basic sense of "going in the track of." The senses of "follow" which mean to replace or to succeed in a chronological or causal sequence are not used here.

Each extreme—the absolute and the artifactual—so strongly appeals to part of our usage of the word *nature* that some inquirers are stalled here and can go no further. Yet even Mill, whose celebrated essay on “Nature” begins with these as the only two options, continues to ask at length about following nature as though it is possible and optional, an inquiry which cannot arise in terms of either of the above senses of the phrase. Are there not some other intermediate and reasonably distinct senses in which we can follow nature?

### FOLLOWING NATURE IN A RELATIVE SENSE

There is a relative sense in which we may follow nature. Although always acting deliberately, we may conduct ourselves more or less continuously or receptively with nature as it is proceeding upon our entrance. Man is the animal with options who, when he acts, chooses just how natural or artificial his actions will be. All human agency proceeds in rough analogy with the sailing of a ship, which, if it had no skipper, would be driven with the natural wind. But the skipper may set the sails to move crosswind or even tack against the wind using the natural wind all the while. There are no unnatural energies. Our deliberative agency only manages to shift the direction of these natural forces, and it is that intervention which we call unnatural. But our interventions are variously disruptive, and, having admitted these senses in which they are all both natural and unnatural, we recognize further a range across which some are more and some are less natural.

Any parents who “plan” their children act unnaturally in the artifactual sense. Yet marriage, mating, and the rearing of children proceed with the laws of nature. In between, we debate just how natural or artificial birth control methods really are. Some moralists and some medical persons dislike methods that greatly tamper with natural cycles. In contrast to the natural love of man and woman, homosexual conduct is unnatural, “queer,” which is one of the strongest reasons why many condemn it. All childbirth is natural, all medically attended childbirth is unnatural, and in between we speak of natural childbirth as opposed to a more medically manipulative childbirth.

All landscaping is artificial. On the other hand, no landscaping violates the laws of nature. Some landscaping, which blends with natural contours and uses natural flora or introduced plants compatible with it, is considered natural; however, landscaping which involves bulldozing out half a hill and setting a building and artificial shrubbery against a scarred landscape is unnatural. All farming is unnatural, against spontaneous nature, but some farming practices fit in with the character of the soil and climate while others do not. Bluegrass does well in Kentucky and in the Midwest, but the Southern farmer is foolish to plant it; and who would plant cotton in New England? On millions of acres found on every continent our unnatural

agricultural practices strain fragile semi-desert ecosystems with the fate of millions of persons at stake. Highly manipulative industrial agriculture seems increasingly unnatural with its hybrid "strains," herbicides and pesticides, monocultures, factory farming of chickens, and hormone lacing of beef cattle on feedlots. Some lakes are natural while others are man-made, but among the latter a pond with a relatively fixed shoreline which permits natural flora to flourish there seems more natural than a drawdown reservoir with barren edges.

All clothing is unnatural; only nudists go *au naturel*. We are usually oblivious to whether style and color have any connection with our environment, but still, when the issue arises, we may prefer "the natural look." The traditional Scots plaids come almost literally from the landscape; "earth tones" are in. The iridescent, gaudy colors of modern chemistry are unnatural. Some prefer furniture with a "natural finish" to having the wooden grain hidden beneath DuPont's latest exotic colors. We hardly object to trails for hikers in our natural areas, but if humans go there with motors and highways the wildness is spoiled. Even along interstate highways we prohibit billboards lest they pollute the countryside.

It is sometimes thought that with increasing amendment and repair of spontaneous nature the degree of unnaturalness is roughly the same as the degree of progress—the successful shift from nature to culture. But our ecological perspective has forced us to wonder whether modern life has become increasingly out of kilter with its environment, lost to natural values that we ought to conserve. Big city life in a high rise apartment—to say nothing of the slum—as well as a day's work in a windowless, air-conditioned factory represent synthetic life filled with plastic everything from teeth to trees. They are foreign to the earthen element from which we were reared. We have lost touch with natural reality; life is, alas, artificial.

This relative sense of following nature has to do with the degree of alteration of our environment, with our appreciative incorporation of this environment into our life styles, and with our nearness to nature. But is it not natural for us to be cultured? Consider our hands, each composed of four dexterous fingers and an opposable thumb. Their natural homologues run back through the primates and even to the birds and reptiles. Consider our brain evolving for speech with the jaw released from prehensile functions, and our eyes moving round to frontal focus on hands that enable us to be agents in the world. What are we to say when we deliberately use this natural equipment? That we act unnaturally? Surely not more so than when we use our eyes and ears. Yet with the brain and hand what are we to do? To follow nature? To build a culture that opposes it? Or is there room for the pursuit of both?

With these questions in mind we now examine four specific relative senses of following nature.

### FOLLOWING NATURE IN A HOMEOSTATIC SENSE

The ecological crisis has introduced us to what we may call the homeostatic sense of following nature: "You ought not to upset the stability of the ecosystem." Here human welfare and survival depend upon our following nature, but in a sense so basic and rudimentary that we wonder whether it is moral. Human conduct may run through a spectrum from what is minimally to maximally disruptive of natural cycles. In its primitive state the human race had only local and relatively inconsequential environmental impact, but technological humanity has at its option powers capable of massive environmental alteration. We use these clumsily and wrongly, partly out of ignorance, partly because of the erratic, unplanned growth of society, but significantly too because of our defiant refusal to participate in our environment, to accept it, and to fit into it. Environmental rebels, we seek to exploit nature and become misfits. Our modern conduct is thus unnatural.

Ecology awakens us to these unnatural actions. Natural systems fluctuate dynamically and sometimes dramatically, but there is also a resilience and recuperative capacity built into them. Still, they may be pushed to the point of collapse. Ordinarily, if a species becomes much of a misfit, it perishes while the system continues. But humankind may push the system to collapse, perish taking nearly everything else down with it, and thus wreck all. This danger is especially clear in the case of hundreds of soil/water/air interactions. What will supersonic jets or aerosol cans do to the ozone layer? Where does all the DDT go, or the strontium 90? What becomes of the pollutants from coal-fired generators, or from nuclear plants? Where we use natural chemicals, we sling them around in unnatural volumes allowing lead from gasoline, arsenic from pesticides, mercury from our batteries, and nitrogen from fertilizers to find their way into places where they are more disruptive than most people imagine. Worse, so much of our chemistry is exotic, not biodegradable, unnatural in the sense that nature cannot break it down and recycle it, or does so very slowly. Every rock made underground can be eroded at the surface; every compound organically synthesized has some enzyme that will digest it, and so on. But our artificial products choke up the system. Alas, not only our technology, but our whole profiteering, capitalistic, industrial system may be "unnatural" in that it cheats by incurring an environmental debt which moves us ever onward toward reduced homeostasis.

Should we then behave naturally? Humans are the only animals with deliberate options and these options do enable us to command nature, the more so with the advance of science. This capacity to command nature is indeed a sort of escape from obeying nature, but of the sort that must remain in intimate contact with nature if it is to continue. We can no more escape from nature than we can from human nature, than the mind can from the body, but we can bring all these increasingly under our deliberative control.



Technology does not release us from natural dependencies; it only shifts the location and character of these, releasing us from some dependencies while immediately establishing new ones. A tree escapes above the soil pushing ever higher only by rooting ever more deeply. On the one hand, we are driven back to our original observation that we can never escape the laws of nature, but must obey them willy-nilly. The only sense in which we can ever break natural laws is to neglect to consider their implication for our welfare. We might even say that any creature acts unnaturally whose behavior is such that the laws of nature run to the detriment of that organism, and when that happens such an unnatural creature soon becomes extinct.

But then, on the other hand, we must not forget our second observation, that all our human actions are unnatural. According to this viewpoint, our successful actions relieve us from the need of following nature—in the sense of submitting to narrow natural constraints—by enlarging our sphere of deliberate options. Room for the homeostatic sense of following nature must be found somewhere between these extremes. The key point we need to consider seems to be that among our deliberate options some will help retain stability in the ecosystem and in our relationship to it while others will not. In this sense it seems perfectly straightforward to say that we may or may not follow nature, and that we both can and ought to do so. To follow nature means to choose a route of submission to nature that utilizes natural laws for our well-being.

It may be objected that the advice to *follow* nature has been subtly converted into the injunction to *study* nature—conduct with which no rational person will quarrel. According to this objection, *studying* nature has nothing to do with *following* nature. To the contrary, its purpose is to repair nature, to free us from conforming to its spontaneous course, by examining just how much alteration we can get by with. This objection has force, but its scope is too narrow, for we study nature to manipulate only parts of it, always within the larger picture of discovering our organic, earthen roots, the natural givens to which we have to submit and with which we have to work. We study cancer in order to eradicate it; we study diabetes in order to repair a natural breakdown in insulin production; but we study the laws of health in order to follow them. We study the causes of floods in order to prevent them, but we study the laws of ecosystemic health in order to follow them. Those who study nature find items they may alter, but they also discover that the larger courses of nature are always to be obeyed. This applies not only in the strong sense in which we have no option, but also in the weak optional sense of intelligently fitting ourselves into their pattern of operation; and in that sense we do study nature, in the end, in order to follow nature.

But is any of this moral? There are a great many ways in which morality readily combines with the injunction to find a life style compatible with our planetary ecosystemic health. The jet set who have insisted on flying in SSTs,

should these planes prove to deplete the protective ozone in the atmosphere, would be acting immorally against their fellow humans, as would farmers who continue long-term poisoning of the soil with non-biodegradable pesticides in order to achieve short-term gains. But it is relatively easy to isolate out the *moral* ends here—respect for the welfare of others—and to see the natural means—conformity to the limitations of our ecosystem—as *nonmoral*.<sup>9</sup> So, we are forced to conclude that there is nothing moral about following nature in and of itself; our relations with nature are always technical or instrumental; and the moral element emerges only when our traffic with nature turns out to involve our inter-human relations. We establish no moral communion with nature, but only with other persons. It is not moral to repair a ship nor immoral to sink it except if it happens to be one that we and our fellow travelers are sailing in. We have reached then a homeostatic sense in which we both can and ought to follow nature only to find it submoral or premoral because the morality surrounding it can be separated off from it.

#### FOLLOWING NATURE IN AN IMITATIVE ETHICAL SENSE

It is difficult to propose that we ought to follow nature in an imitative ethical sense because our usual estimate—and here we vacillate—is that nature is either amoral or immoral. We call nature amoral because morality appears in humans alone and is not, and has never been, present on the natural scene. Human conduct may be moral or immoral, but the “conduct” of nature, if indeed it can be called that, is simply amoral. The moral dimension in human nature has no counterpart in mother nature. No being can be moral unless he is free deliberately; something must be “up to him”; and nothing else in nature has sufficient mental competence to be moral. Mother nature simply unfolds in creatures their genetic programming, like the developing seed, and they respond to their environments driven like the leaf before the wind. Even if there are erratic, indeterminate elements in nature, these provide no moral options; they just happen. Biological and evolutionary processes are no more moral than the laws of gravity or electricity. Whether something does or must happen has nothing to do with whether it ought to happen. Out of this estimate arises the basic cleavage that runs through the middle of the modern mind dividing every study into the realm of the *is* and the realm of the *ought*. No study of nature whether physical, biological, or even social can tell us what ought to happen, and following nature where it is possible and optional is something that is never in itself moral. Nature is blind to this dimension of reality. It is a moral nullity.

9. See Holmes Rolston, III, “Is There an Ecological Ethic?” in *Ethics: An International Journal of Social, Political, and Legal Philosophy* 85 (1975): 93-109.

We immediately grant that there are no other moral agents in nature, whether orangutans, butterflies, wind, or rain; nor is nature as a whole a moral agent even when personified as "Mother Nature." We have no evidence that any natural species or forces do things deliberately, choosing the most moral route from less moral options. If anyone proposes that we "follow nature" in something like the ethical sense in which Christians "follow Jesus," or the Buddhists, Buddha, he has very much gone astray, and the blind does indeed lead the blind. Such a person ignores the emergent sphere of deliberative morality in humans for which there is no precedent in birds or field mice. In this sense, Mill is undoubtedly right when he protests that conformity to nature has no connection with right and wrong. There is no way to derive any of the familiar moral maxims from nature: "*One ought to keep promises.*" "*Tell the truth.*" "*Do to others as you would have them do to you.*" "*Do not cause needless suffering.*" There is no natural decalogue to endorse the Ten Comandments; nature tells us nothing about how we should be moral in this way, *even if* it should turn out that this is approximately the morality ingrained by natural selection in human nature.

But this does not end the matter, for there may nevertheless be some good or goods in nature with which we morally ought to conform even if these goods have not been produced by the process of deliberative options necessary to us if we are to be moral. The resolution of this form of our question will prove more difficult. Because nature has no moral agency, and because inter-human relations are clearly moral, it has been easy to suppose that there is nothing moral in our relations with nature. It has also been easy to conclude that morality is not "natural," but rather belongs to our "super-natural" nature. But to grant that morality appears with the emergence of human beings out of nonmoral nature does not settle the question whether we, who are moral, should follow nature.

When the issue of good in nature is raised, we are at once confronted with the counterclaim that the course of nature is bad—one which, if we were to follow it, would be immoral. Nature proceeds with an absolute recklessness that is not only indifferent to life, but results in senseless cruelty which is repugnant to our moral sensibilities. Life is wrested from her creatures by continual struggle, usually soon lost; and those "lucky" few who survive to maturity only face more extended suffering and eventual collapse in disease and death. With what indifference nature casts forth to slaughter ten thousand acorns, a thousand grasshoppers, a hundred minnows, and a dozen rabbits, so that one of each might survive. Things are no sooner sprouted, hatched, or born than they are attacked; life is unrelieved stress, until sooner or later, swiftly or by inches, fickle nature crushes out the life she gave, and the misery is finally over. All we can be sure of from the hands of nature is calamity. We are condemned to live by attacking other life. Nature is a gory blood bath; she permits life only in agony. The world's last word is

what the Buddhists call *duhkha*, suffering. Few persons can read Mill's essay on "Nature" without being chastened in their zeal for following nature:

In sober truth, nearly all the things which men are hanged or imprisoned for doing to one another, are nature's everyday performances. . . . Nature impales men, breaks them as if on the wheel, casts them to be devoured by wild beasts, burns them to death, crushes them with stones like the first christian martyr, starves them with hunger, freezes them with cold, poisons them by the quick or slow venom of her exhalations, and has hundreds of other hideous deaths in reserve, such as the ingenious cruelty of a Nabis or a Domitian never surpassed. . . . A single hurricane destroys the hopes of a season; a flight of locusts, or an inundation, desolates a district. . . . Everything, in short, which the worst men commit either against life or property is perpetrated on a larger scale by natural agents.<sup>10</sup>

The Darwinian paradigm of nature in the nineteenth century strongly reinforced that of Mill. Nature became a kind of hellish jungle where only the fittest survive, and these but barely. The discovery of the genetic basis of Darwin's random mutations only added to the sense of nature's rudderless proceedings, law-like to be sure in the sense that natural selection conserves beneficial mutations, but still aimless since natural selection operates blindly over mutations which are mostly worthless, irrelevant, or detrimental. There seemed a kind of futility to it all, certainly nothing worthy of our moral imitation. This portrait of nature affected several generations of ethicists who frequently concluded that ethics had nothing to do with the laws of nature unless it was to alter and overcome our natural instincts and drives, lest we too behave "like beasts." The *is/ought* cleavage became entrenched in earlier twentieth-century philosophy in large part because of this nineteenth-century portrait of nature. G.L. Dickinson expresses with great force the protest of this period:

I'm not much impressed by the argument you attribute to Nature, that if we don't agree with her we shall be knocked on the head. I, for instance, happen to object strongly to her whole procedure: I don't much believe in the harmony of the final consummation. . . and I am sensibly aware of the horrible discomfort of the intermediate stages, the pushing, kicking, trampling of the host, and the wounded and dead left behind on the march. Of all this I venture to disapprove; then comes Nature and says, "but you ought to approve!" I ask why, and she says, "Because the procedure is mine." I still demur, and she comes down on me with a threat—"Very good, approve or no, as you like; but if you don't approve you will be eliminated!" "By all means," I say, and cling to my old opinion with the more affection that I feel myself invested with some-

10. Mill, *Collected Works*, 10:385-86.

thing of the glory of a martyr. . . . In my humble opinion it's Nature, not I, that cuts a poor figure!<sup>11</sup>

Here we have undoubtedly reached a moral sense of following nature, but one we cannot recommend. Virtually none of us, except perhaps ethical mavericks like Nietzsche, will recommend that this pushing, kicking, and trampling be taken as a moral model for inter-human conduct. So, offered this imitative ethical sense of following nature, we observe that nature is not a moral agent and therefore really cannot be followed, and secondly that there are elements in nature which, if we were to transfer them to inter-human conduct, would be immoral, and therefore ought not to be imitated. But does it follow that nature is therefore bad, a savage realm without natural goods? Is this ferocity and recklessness all that is to be said, or even the principal thing to be said, or can this be set in some different light?

#### FOLLOWING NATURE IN AN AXIOLOGICAL SENSE

In order to develop an axiological sense in which human conduct may be natural, let us make a fresh start and postpone answering the question we have just posed until we can come at it from another side. Three environments—the urban, the rural, and the wild—provide three human pursuits—culture, agriculture, and nature. All three are vocations which ought to be followed and environments which are needed for our well-being. We are concerned for the moment with human activity collectively and will examine individual responsibility later. When Aristotle observed that “Man is by nature a political animal,”<sup>12</sup> he was speaking in terms of the Greek word *polis*, city-state, of which Athens is such a memorable example. Here *city* refers indiscriminately to village, town, and city. We are social animals and the story of civilization is largely the growth of our capacity for building a cultured state. We are both *Homo sapiens* and *Homo faber*; the brain and the hand combine in wisdom and in craft to construct the enormous world of artifacts which is our urban environment. All these products are unnatural in the sense that they are independent of nature's spontaneous production. It cannot, on the other hand, be unnatural for us to build cities, for, after all, nature has supplied us with the brain and the hand as well as the social propensities for community. Humans are the creatures whom nature did not specialize, but rather equipped with marvelous faculties for culture and craft. We ought to use them, both prudentially and morally, for is not wasted talent a sin? In this sense it is not unnatural for man to be urban even though, as soon as we do anything deliberately, we alter spontaneous nature.

11. Goldworthy Lowes Dickinson, *The Meaning of Good* (New York: McClure, Phillips and Co., 1907), p. 46.

12. Aristotle *Politics* 1. 2. 1253<sup>a</sup>2.

We reach the paradox that "Man is the animal for whom it is natural to be artificial."<sup>13</sup>

In culture we allow a discontinuity between human life and nature, but this discontinuity is still an extension out of the ultimate natural environment. Nature releases us to develop our culture; here she offers no model; we are on our own; the mores of the human city are up to us, albeit judged by a culturing of those native endowments we call reason and conscience. The city is in some sense our *niche*; we belong there, and no one can achieve full humanity without it. Cultured human life is not possible in the unaltered wilderness; it is primitive and illiterate if it remains at a merely rural level. The city mentality provides us with literacy and advancement, whether through the market with its trade and industry, or through the library and laboratory, out of which so much of our knowledge of nature has come.

By the term *rural environment* we mean nature as domesticated for the life support of the human population, primarily the cultivated landscape, the field, the woodlot, the pasture, the groved road, the orchard, the ranch. The farm feeds the city, of course, and that may be taken as a metaphor for the whole support of society in soil, water, and air—for the organic circulations of the city in nature. The rural environment is the one in which humans meet nature in productive encounter, where we command nature by obeying her. Here there is a judiciously mixed sense of discontinuity and continuity: by human agency we adapt the natural course—yet we adopt it too; we alter nature—yet accept its climates and capacities. We both get into nature's orbit and bring nature into our orbit. We direct nature round to our goals; yet, if we are intelligent, we use only those disruptions that nature can absorb, those appropriate to the resilience of the ecosystem under cultivation. In the urban environment, no burden of proof rests on a person proposing an alteration whether or not the change is natural (so long as it does not spill over to disrupt rural or wild areas). But in the rural environment, a burden of proof does rest upon the proposer to show that the alteration will not deteriorate the ecosystem. Within our agricultural goals our preference is for those alterations that can be construed as "natural," those most congenial to the natural environment; and we prohibit those that disfigure it.

The rural environment is an end in itself as well as an instrument for the support of the city. It has beauty surpassing its utility. If we ask why there are gardens, we answer "for food," only to recall that there are also flower gardens. The English garden combines both the rose and the berry bush. Both the farm and the park belong in the pastures of the Shenandoah Valley, the blue grass farms of Kentucky, and the cornfields of Iowa, where there is a form of beauty not possible either in the city or in the wilderness. We love the green, green grass of

13. Lucius Garvin, *A Modern Introduction to Ethics* (Cambridge, Mass.: Houghton Mifflin, 1953), p. 378.

home, the tree in the meadow, the forested knobs behind the church, and the walk down by the pond. We are deeply satisfied by the rural environment. Although we appreciate our modern freedom from the drudgery of the farm, many still cherish, within limits, experiences that can only be had in the country—sawing down an oak tree, shelling peas, drawing a bucket of water from a well.

The rural environment is, or ought to be, a place of *symbiosis* between humankind and nature, for we may sometimes improve a biosystem. The climax forest of an ecosystemic succession is usually not suited for the maximum number and kinds of fauna and flora, and this succession can be interrupted by agriculture with benefit to those natural species which prefer fields and edging. There are more deer in Virginia now than when the Indians inhabited its virtually unbroken forests, and that is probably true of cottontails, bobwhites, and meadowlarks. Suitable habitat for all but a few of the wildest creatures can be made consistent with the rural use of land. With pleasant results humans have added the elm and the oak to the British landscape, the Russian olive to the high plains, the eucalyptus to California, the floribunda rose to interstate highway roadsides, and the ring-necked pheasant to the prairies. In his idyllic love of nature, Emerson did not write of the wilderness so much as of the domestic New England countryside. When we sing "America the Beautiful," we sing largely of this gardenized nature.

We may even speak of a micro-rural environment—an urban garden, a city park, an avenue of trees with squirrels and rabbits, a suburban fence row with cardinals and mockingbirds, a creekside path to a school. Anyone who flies over all but the worst of our Eastern cities will be impressed by how much nature is still there. We love something growing about us if only trees and lawns, and everyone would consider a city improved if it had more green space, more landscape left within it. We prefer our homes, bridges, streets, offices, and factories to be "in a natural setting." We want our cities graced with nature, and that alone suffices to undermine Mill's claim that "All praise of Civilization, or Art, or Contrivance, is so much dispraise of Nature."<sup>14</sup> The wood fire on the stone hearth or the gentle night rain on a tin roof recall for us this natural element; even our plastic trees vicariously return us to nature.

Our requirements for wild nature are more difficult to specify than those for tamed nature, but nonetheless real. The scarcest environment we now have is wilderness, and, when we are threatened with its possible extinction, we are forced to think through our relationships to it. Do we preserve wild nature only as a potential resource for activity that humans may someday wish to undertake in terms of urban or rural nature? Or are there richer reasons, both moral and prudential, why we ought to maintain some of our environment in a primitive state?

14. Mill, *Collected Works*, 10:381.

It is beyond dispute that we enjoy wild places, that they fill a *recreational* need, but that word by which we typically designate this fulfillment seems a poor one until we notice a deeper etymology. Something about a herd of elk grazing beneath the vista of wind and sky, or an eroded sandstone mesa silhouetted against the evening horizon, *re-creates* us. We have loved our national parks almost to death, the more so because they are kept as close to spontaneous nature as is consistent with their being extensively visited. Worried about park overuse, we are now struggling to preserve as much wilderness area as possible, resolving to keep the human presence there in lower profile. We set aside the best first—the Yellowstone, the Grand Canyon, the High Sierra, the Great Smokies, the Everglades—but later found that there was really no kind of landscape for which we did not wish some preservation—the desert, the pine barrens, the grasslands, the wild rivers, the swamps, the oak-hickory forests. We began by preserving the buffaloes and lady-slippers, and soon became concerned for the toads and mosses. But why is it that sometimes we would rather look for a pasqueflower than see the latest Broadway hit?

Wild nature is a place of encounter where we go not to act on it, but to contemplate it, drawing ourselves into its order of being, not drawing it into our order of being. This accounts for our tendency to think of our relationship to wild nature as recreational, and therefore perhaps idle, since we do not do any work while there. We are at leisure there, often, of course, an active leisure, but not one that is economically productive. In this respect our attitude toward wilderness will inevitably be different from that of our grandfathers who for the most part went into it to reduce the wild to the rural and urban. Their success forces us to the question of the worth of the wild. But, when the answer has to be given in non-resource terms, it is not the kind or level of answer to which we are accustomed in questions about nature. For in important senses wild nature is not for us a commodity at all. Even when the answer is given in terms of some higher, noneconomic value, our philosophical apparatus for the analysis and appraisal of wild value is, frankly, very poorly developed, for we have too much fallen into the opinion that the only values that there are, moral or artistic or whatever, are human values, values which we have selected or constructed, over which we have labored. Modern philosophical ethics has left us insensitive to the reception of nonhuman values.

We need wild nature in much the same way that we need the other things in life which we appreciate for their intrinsic rather than their instrumental worth, somewhat like we need music or art, philosophy or religion, literature or drama. But these are human activities, and our encounter with nature has the additional feature of being our sole contact with worth and beauty independent of human activity. We need friends not merely as our instruments, but for what they are in themselves, and, moving one order beyond this, we need wild nature precisely because it is a realm of values



which are independent of us. Wild nature has a kind of integrity, and we are the poorer if we do not recognize it and enjoy it. That is why seeing an eagle or warbler, a climbing fern or a blue spruce is a stirring experience. The Matterhorn leaves us in awe, but so does the fall foliage on any New England hillside, or the rhododendron on Roan Mountain. Those who linger with nature find this integrity where it is not at first suspected, in the copperhead and the alligator, in the tarantula and the morel, in the wind-stunted banner spruce and the straggly box elder, in the stormy sea and the wintry tundra. Such genuine nature precedes and exceeds us despite all our dominion over it or our uniqueness within it, and its spontaneous value is the reason why contact with nature can be re-creating.

We are so indisposed to admit the possibility of wild value that the cautious naturalist, finding himself undeniably stimulated by his outings, will still be inclined to locate these values within himself—values which he believes he has somehow constructed or unfolded out of the raw materials of natural encounter. These encounters provide him with an account of why only some of nature has value for him. If he has successfully used it, it has value. The rest of nature, left unused, has no value, not yet at least. Wild nature, then, according to this account, serves only as an occasion of value; it triggers dormant human potential. Even such a naturalist, however, needs wild nature for the triggering of these values, and he will have to reckon with why nature has this capacity to occasion value, being necessary if insufficient for it. But what makes this account peculiarly unsatisfying is its persistent anthropocentrism and its artificiality in actual natural encounter. It takes considerable straining, even after studying philosophy, to accept the idea that the beauty of the sunset is only in the eye of the beholder. The sensitive naturalist is again and again surprised by nature, being converted to its values and delighted by it just because he has gone beyond his previous, narrowly-human values. It is the autonomous otherness of the natural expressions of value that we learn to love, and that integrity becomes vain when this value secretly requires our composing.

This value is often artistic or aesthetic, and is invariably so if we examine a natural entity at the proper level of observation or in terms of its ecological setting. An ordinary rock in microsection is an extraordinary crystal mosaic. The humus from a rotting log supports an exquisite hemlock. But this value also has to do with the intelligibility of each of the natural members; and here natural science, especially ecology, has greatly helped us. This intelligibility often leads to a blending of the autonomy of each of the natural kinds creating a harmony in the earthen whole. A world in which there are many kinds of things, the simple related to the complex, is a valuable world, and especially so if all of them are intelligibly related. Everything has its *place*, and that justifies it. Natural value is further resident in the vitality of things, in their struggle and zest, and it is in this sense that we often speak of a reverence for life, lovely or not. Or should we say that we find all life

beautiful, even when we sometimes must sacrifice it? We love the natural mixture of consistency and freedom; there is something about the word *wild* that goes well with the word *free*, whether it is the determined freedom of the wild river or the more spontaneous freedom of the hawk in the sky. In this splendor, sublimity, and mystery the very word *wild* is one of our value words. Simply put, we find *meanings* in wild things.

In this context we may offer yet another answer to our question. We may be said to follow that which is the object of our orienting interest, as when we follow sports, medicine, or law, or the latest news developments. Many scientists, perhaps all the "pure" ones, "follow nature" in that they find its study to be of consuming interest—intrinsically worthwhile—and those who are also naturalists go on in varying senses to say that they appreciate nature, find great satisfaction in it, and even love it. We follow what we "participate in," especially goals we take to be of value. This sense of "follow" is less than "ethical imitation," but it is significantly more than the notion that our conduct toward nature is not moral. For we look to nature as a realm of natural value beyond mere natural facts, which, maintained in its integrity, we may and ought to encounter. The notion of "following" nature, in addition, is deeper than following art, music, or sports, in that, when encountering nature, we are led by it through sensitive study to the importation of nonhuman kinds of meaning. When I delight in the wild hawk in the wind-swept sky, that is not a value that I invent, but one that I discover. Nature has an autonomy which art does not have. We must follow nature to gain this meaning—in the sense of leaving it alone, letting it go its way. We take ourselves to it and listen for and to its natural forms of expression, drawn by a range and realm of values which are not of our own construction. We ought not to destroy this integrity, but rather preserve it and contemplate it, and in this sense our relations with nature are moral. Even G.E. Moore, who so much lamented the "naturalistic fallacy," by which we mistakenly move from a natural *is* to an ethical *ought*, still finds that appreciation of the existence of natural beauty is a good.<sup>15</sup> But morality is the science of the good; so, as soon as we move from a natural *is* to a natural *is good*, our relations with that natural good are moral. We follow what we love, and the love of an intrinsic good is always a moral relationship. We thus find it possible to establish that moral communion with nature which James thought impossible. In this axiological sense, we ought to follow nature, to make its value one among our goals; and, in so doing, our conduct is here guided by nature.

How far is this value so distributed that each individual is obligated to moral conduct towards nature? There is no person who ought not to be concerned with the preservation of natural goodness, if only because others undeniably do find values there. Nevertheless, we allow individuals to weight their preferences, and there may be differing vocations, some seeking the

social goods more than the natural ones. But a purely urban person is a one-dimensional person; only those who add the rural and the wild are three-dimensional persons. As for myself, I consider life morally atrophied when respect for and appreciation of the naturally wild is absent. No one has learned the full scope of what it means to be moral until he has learned to respect the integrity and worth of those things we call wild.

### FOLLOWING NATURE IN A TUTORIAL SENSE

In positing a tutorial sense in which human conduct may follow nature, I admit that I can only give witness and invite the sharing of a gestalt, rather than provide a reasoned conceptual argument. I find I can increasingly "draw a moral" from reflecting over nature—that is, gain a lesson in living. Nature has a "leading capacity"; it prods thoughts that educate us, that lead us out (*educio*) to know who and where we are, and what our vocation is. Take what we call natural symbols—*light and fire, water or rock, morning and evening, life and death, waking and sleeping, the warmth of summer and the cold of winter, the flowers of spring and the fruits of fall, rain and rivers, seeds and growth, earth and sky*. How readily we put these material phenomena to "metaphorical" or "spiritual" use, as when we speak of life's "stormy weather," of strength of character "like a rock," of insecurity "like shifting sand," of the "dark cloud with the silver lining," or of our "roots" in a homeland. Like a river, life flows on with persistence in change. How marvelously Lanier could sing of the watery marshes of Glynn—and the darkey, of Old Man River! How profound are the psychological forces upon us of the grey and misty sky, the balmy spring day, the colors we call bright or somber, the quiet of a snowfall, the honking of a skein of wild geese, or the times of natural passage—birth, puberty, marriage, death! How the height of the mountains "elevates" us, and the depths of the sea stimulates "deep" thoughts within!

Folk wisdom is routinely cast in this natural idiom. The sage in Proverbs admonishes the sluggard to consider the ways of the ant and be wise. The farmer urges, "Work, for the night comes, when man's work is done." "Make hay while the sun shines." The Psalmist notices how much we are like grass which flourishes but is soon gone, and those who understand the "seasonal" character of life are the better able to rejoice in the turning of the seasons and to do everything well in its time. Jesus asks us, in our search for the goods of life, to note the natural beauty of the lilies of the field, which the affected glory of Solomon could not surpass, and he points out birds to us, who, although hardly lazy, are not anxious or worried about tomorrow.

15. George Edward Moore, *Principia Ethica* (Cambridge: Cambridge University Press, 1903), pp. 36-58, 188, 193, 195-98, 200, 206.

*"What you sow, you reap." "Into each life some rain must fall." "All sunshine makes a desert." "By their fruits shall you know them." "The early bird gets the worm." "Time and tide wait for no man." "The loveliest rose has yet its thorns." "The north wind made the Vikings." "The tree stands that bends with the wind." "White ants pick a carcass cleaner than a lion." "Every mile is two in winter." "If winter comes, can spring be far behind."* It is no accident that our major religious seasons are naturally scheduled: Christmas comes at the winter solstice, Easter with the bursting forth of spring, and Thanksgiving with the harvest. Encounter with nature integrates me, protects me from pride, gives a sense of proportion and place, teaches me what to expect, and what to be content with, establishes other value than my own, and releases feelings in my spirit that I cherish and do not find elsewhere.

Living well is the catching of certain natural rhythms. Those so inclined can reduce a great deal of this to prudence, to the natural conditions of value; and we may be particularly prone to do this because nature gives us no ethical guidance in our inter-human affairs. But human conduct must also be an appropriate form of life toward our environment, toward what the world offers us. Some will call this mere efficiency, but for some of us it is a kind of wisdom for which prudence and efficiency are words that are too weak. For we do not merely accept the limits that nature thrusts upon us, but endorse an essential goodness, a sufficiency in the natural fabric of life which encompasses both our natural talents and the constitution of the world in which, with our natural equipment, we must conduct ourselves. What I call a larger moral virtue, excellence of character, comes in large part, although by no means in the whole, from this natural attunement; and here I find a natural ethic in the somewhat old-fashioned sense of a way of life—a life style that should "follow nature," that is, be properly sensitive to its flow through us and its bearing on our habits of life. A very significant portion of the *meaning* of life consists in our finding, expressing, and endorsing its naturalness. Otherwise, life lacks propriety.

We have enormous amounts of nature programmed into us. The protoplasm that flows within us has flowed naturally for over a billion years. Our internal human nature has evolved in response to external nature for a million years. Our genetic programming—which largely determines what we are, making each of us so alike and yet so different—is entirely natural. It is difficult to think that we do not possess a good natural fit in the wellsprings of our behavior. Our cultural and our agentive life must be, and, so far as it is optional, ought to be consistent with that fit—freeing us no doubt for the cities we build, permitting our rural adaptations, and yet in the end further fitting us for life within our overarching natural environment. We are not, in the language of geographers, environmentally determined, for we have exciting options, and these increase with the advance of culture. But we are

inescapably environmentally grounded as surely as we are mortal. This *is* the case, and hence our optional conduct *ought* to be commensurately natural; and, if we can transpose that from a grudging prudential *ought* to a glad moral *ought*, we shall be the happier and the wiser for finding our "place under the sun." Life moves, we are saying, not so much against nature as with it, and that remains true even of cultured human life which never really escapes its organic origins and surroundings. Our ethical life *ought* to maintain for us a good natural fit in both an efficient and a moral sense. This is what Emerson means when he commends moral conduct as conformity to the laws of nature. There is in this communion with nature an ethic for life, and that is why exposure to natural wildness is as necessary for a true education as the university.

Someone may complain, and perhaps fiercely, that in this ethic nature only serves as an occasion for the construction of human virtues; that the natural wisdom we have cited shows only the virtues that develop *in us* when we confront nature; and that thus there is no following of nature, but rather a resistance to it, a studied surmounting in which we succeed despite nature. But this anthropocentric account is too one-sided. Evolution and ecology have taught us that every kind of life is what it is not autonomously but because of a natural fit. We are what I call *environmental reciprocals* indebted to our environment for what we have become in ways which are as complementary as they are oppositional. Nature is, I think, not sufficient to produce all these virtues in us, and that allows for our own integrity and creativity—but nature is necessary for them. Admittedly, we must attain these virtues before we find and establish natural symbols for them—we must undergo the natural course in order to understand it—but I do not think that this ethical strength is merely and simply inside us. It is surely relational, at a minimum, arising out of the encounter between humans and nature. At the maximum, we are realizing and expressing in this strong and good life which we live something of the strength and goodness which nature has bequeathed us.

Nature is often enigmatic. Human life is complex. Each contains many times and seasons. The danger here is that any secretly desired conduct can somehow be construed as natural and found virtuous. Nature gives us little help concerning how we are to behave toward one another. In these matters we are free to do as we please, although nature has endowed us with reason and conscience out of which ethics may be constructed. Especially suspicious are arguments which assign human roles to nature, as is sometimes done with women or blacks, for we easily confuse the natural with the culturally conventional.

There may also be cases where we learn what is bad from nature. In rare cases, we may unwisely elect to follow some process in nature which in itself is indefensible—as some say the bloodthirsty conduct of the weasel is. I do not wish to defend the course of nature in every particular, but most of these

cases involve learning something bad—an ethic of selfishness, a dog-eat-dog attitude, or a might-makes-right life style—by inappropriately projecting into moral inter-human conduct, and thereby making bad what is quite appropriate at some lower, nonmoral level—for example, the principle of the survival of the fittest or the self-interest programmed into the lower life forms. We cannot assume that the way things work at lower, nonmoral levels is the way that they ought to work at human, moral levels, for the appearance of the capacity for moral deliberation makes a difference. This is what is correct about the *is-ought* distinction. Our moral conduct exceeds nature, and we must deliberate with an ethic based on reason and conscience which supplants instinct. It is our conduct or mores insofar as it fits us to our environment—our ethic of bearing toward the natural world, not toward other persons—that I refer to in the tutorial sense, and which I here defend. Moreover, I call this conduct moral too in the sense that it contributes to our wisdom and our excellence of character.

In catching these natural rhythms, we must judiciously blend what I call *natural resistance* and *natural conductance*. Part of nature opposes life, increases entropy, kills, rots, destroys. Human life, like all other life, must struggle against its environment, and I much admire the human conquest of nature. However, I take this dominion to be something to which we are naturally impelled and for which we are naturally well-equipped. Furthermore, this struggle can be resorbed into a natural conductance, for nature has both generated us and provided us with life support—and she has stimulated us into culture by her resistance. Nature is not all ferocity and indifference. She is also the bosom out of which we have come, and she remains our life partner, a realm of otherness for which we have the deepest need. I resist nature, and readily for my purposes amend and repair it. I fight disease and death, cold and hunger—and yet somehow come to feel that wildness is not only, not finally, the pressing night. Rather, that wildness with me and in me kindles fires against the night.

I am forced, of course, to concede that there are gaps in this account of nature. I do not find nature meaningful everywhere, or beautiful, or valuable, or educational; and I am moved to horror by malaria, intestinal parasites, and genetic deformities. My concept of the good is not coextensive with the natural, but it does greatly overlap it; and I find my estimates steadily enlarging that overlap. I even find myself stimulated positively in wrestling with nature's deceptions. They stir me with a creative discontent, and, when I go nature one better, I often look back and reflect that nature wasn't half bad. I notice that my advanced life depends on nature's capacity to kill and to rot, and to make a recycling and pyramidal use of resources. Nature is not first and foremost the bringer of disease and death, but of life, and with that we touch the Latin root, *natus*. When nature slays, she takes only the life she gave as no murderer can; and she gathers even that life back to herself by reproduction and by re-folding organic resources and genetic materials,

and produces new life out of it.

Environmental life, including human life, is nursed in struggle; and to me it is increasingly inconceivable that it could, or should, be otherwise. If nature is good, it must be both an assisting and a resisting reality. We cannot succeed unless it can defeat us. My reply, then, to G.L. Dickinson's lament over the kicking and pushing in nature is that, although I do not imitate it, certainly not in human ethics, I would not eliminate it if I could, not at least until I have come to see how life could be better stimulated, and nobler human character produced without it. Nature is a vast scene of birth and death, springtime and harvest, permanence and change, of budding, flowering, fruiting, and withering away, of processive unfolding, of pain and pleasure, of success and failure, of ugliness giving way to beauty and beauty to ugliness. From the contemplation of it we get a feeling for life's transient beauty sustained over chaos. There is as it were a music to it all, and not the least when in a minor key. Even the religious urges within us, though they may promise a hereafter, are likely to advise us that we must for now rest content with the world we have been given. Though we are required to spend our life in struggle, yet we are able to cherish the good earth and to accept the kind of universe in which we find ourselves. It is no coincidence that our ecological perspective often approaches a religious dimension in trying to help us see the beauty, integrity, and stability of nature within and behind its seeming indifference, ferocity, and evils.

Dickenson's portrait can give an account of only half of nature, natural resistance, and even that is an enigmatic account of human life set oddly, set for martyrdom, in a hostile world. He can give no account of natural conductance; indeed, he cannot even see it, and thus he has mistakenly taken the half for the whole. But the account which I am seeking contains both elements, and not merely as a nonsensical mixture of goods and evils—each is a surd in relation to the other. A world in which there is an absurd mixture of helps and hurts is little better than a world of steady hostility. Neither could tutor us. What one needs is a nature where the evils are tributary to the goods, or, in my language of philosophical ecology, where natural resistance is embraced within and made intelligible by natural conductance. It is not death, but life, including human life as it fits this planetary environment, which is the principal mystery that has come out of nature. For several billion years, the ongoing development and persistence of that life, culminating in human life, have been the principal features of eco-nature behind which the element of struggle must be contained as a subtheme. Our conduct morally ought to fit this natural conductance. Life follows nature because nature follows life.

I do endorse in principle, though not without reservations, the constitution of the ecosystem. I do not make any long-range claims about the invariable, absolute law of evolution, about who is guiding the ship, or about the overall record of cosmic nature. There is beauty, stability, and integrity in the

evolutionary ecosystem that we happen to have. There is a natural, an earthen, trend to life, although we cannot know it as a universal law. We ought to preserve and to value this nature, if only because it is the only nature that we know in any complexity and detail. If and when we find ourselves in some other nature, of a sort in which we earthlings can still maintain our sanity, we can then revise our ethic appropriately. In the meantime, however, we can at least sometimes "seek nature's guidance" in a tutorial sense almost as one might seek guidance from the Bible, or Socrates, or Shakespeare, even though nature, of course, does not "write" or "speak." None of us lives to the fullest who does not study the natural order, and, more than that, none of us is wise who does not ultimately make his peace with it.

When Mill faces the prospect of an unending expansion of the urban and rural environments, his attitude toward nature shifts, and, rather surprisingly, we find him among the defenders of nature. Suppose, God forbid, he writes, that we were brought by our industry to some future "world with nothing left to the spontaneous activity of nature; with every rood of land brought into cultivation, which is capable of growing food for human beings; every flowery waste or natural pasture ploughed up, all quadrupeds or birds which are not domesticated for man's use exterminated as his rivals for food, every hedgerow or superfluous tree rooted out, and scarcely a place left where a wild shrub or flower could grow without being eradicated as a weed in the name of improved agriculture." Such a world without "natural beauty and grandeur," Mill asserts, "is not good for man." Wild nature "is the cradle of thoughts and aspirations which are not only good for the individual, but which society could ill do without."<sup>16</sup> Thus, in the end, we enlist even this celebrated opponent of our morally following nature among those who wish to follow nature in our axiological sense.

For a closing statement on the tutorial sense of following nature, however, we do better to consult a poet rather than an ecologist or an ethicist. "I came from the wilderness," remembers Carl Sandburg as he invites us to reflect on the wilderness—how it tries to hold on to us and how, in our tutorial sense, we ought not to be separated from it:

There is an eagle in me and a mockingbird. . . and the eagle flies among the Rocky Mountains of my dreams and fights among the Sierra crags of what I want. . . and the mockingbird warbles in the early forenoon before the dew is gone, warbles in the underbrush of my Chattanooga of hope, gushes over the blue Ozark foothills of my wishes—And I got the eagle and the mockingbird from the wilderness.<sup>17</sup>

16. John Stuart Mill, *Principles of Political Economy*, in *Collected Works*, 3:756. Mill also records that reading Wordsworth's poetry reawoke in him a love of nature after his analytic bent of mind had caused a crisis in his mental history. See John Stuart Mill, *Autobiography* (Boston: Houghton Mifflin, 1969), pp. 88-90.
17. Carl Sandburg, "Wilderness," in *Complete Poems* (New York: Harcourt, Brace, Jovanovich, 1970), p. 100. Ellipsis in original.