HUMANS IN NATURE

THE WORLD AS WE FIND IT AND THE WORLD AS WE CREATE IT

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Humans in Nature
To Rebecca, who wants to live richly within the natural bounds of life; to Hannah, who wants to live forever (and have wings); and to Gwen, who wants all good things for our children.
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Technology—the modification of nature for the further modification of nature—is celebrated as one of the marks of human nature. Yet many people are also increasingly concerned about the depth and extent to which our technological prowess now allows humans to modify nature, human and otherwise: they are concerned, for example, about the human-caused extinction of plants and animals, about the introduction of genetically engineered crops and livestock, and about the biotechnological enhancement of human beings. Similar concerns have been expressed about the field of synthetic biology, which aims to bring engineering to biology and make possible the construction of organisms designed to serve human ends.

All of these concerns are about the desirability of altering natural states of affairs—human nature, animal and plant nature, and nature in the environment around us. They are not just fears that the alterations will turn out to be bad for human welfare; to some extent, they are misgivings about the very idea of altering natural states of affairs, regardless of the possible consequences for anyone’s welfare. Wiping out the nautilus to make baubles from its shells may well be a rational thing to do from the standpoint of human benefit, but many would still think it awful. Introducing a jellyfish gene into zebrafish to create the fluorescing Glofish, a highlight for any aquarium, is probably unexceptionable from the standpoint of human benefit, and yet it makes some people a bit queasy. The prospect of significantly altering human beings, if the alterations are not aimed at treating disease, is also an unattractive prospect to at least some ordinary human beings. In such cases, a natural state of affairs is held to be intrinsically morally significant: people care about that state morally and have an urge to preserve it, for its own sake, rather than because of some other valuable thing that it may be useful for attaining.

These widely and deeply felt intuitions about the destruction of naturally occurring spaces and species and about the use of biotechnologies to
change crops and livestock or to enhance human beings face several serious challenges. First, can we ever really identify a “natural” state of affairs? The world as found and the world as created or altered can be hard to tease apart. The few remaining patches of tallgrass prairie look to be natural, for example, but they require extensive human management to stay that way, and some of them are the result of “restoration” efforts that may seem to be examples as clear as any of human intervention into nature. Even the “original” prairies, those that white settlers found in their westward trek, were managed: they had been maintained by deliberately set fires, and the mix of species that European settlers found in them was quite different from what it had been about 15,000 years earlier.

Second, why should we value nature? Can it make sense to say that we value nature morally? The standard accounts of moral values in the Western philosophical canon do not easily accommodate moral concerns about human activity that drives species into extinction or might lead to fundamental changes in human nature. To many critics, objections to changing nature demonstrate irrationality; morality calls precisely for changing the world as we find it to make it better.

Third, even if we can come up with answers to the first two questions, still, how should moral concerns about nature be taken up into public discourse and public policy making? Should they? Or should government strive to be neutral on such matters? In the Western liberal tradition, the range of acceptable government action is often thought to be restricted, and individuals are given considerable latitude to live by their own values. If so, then however we settle the moral question, perhaps individuals should be left to commune with nature or remake it as they please.

This book, which emerges from a series of projects that The Hastings Center has conducted with funding from the National Endowment for the Humanities, the Alfred P. Sloan Foundation, the National Institutes of Health, the Rockefeller Foundation, and the United States Anti-Doping Association, explores questions about the moral significance of “nature” or “the natural” in two ways. The first four chapters isolate the philosophical challenges and propose approaches to them that will make possible a careful, sympathetic, yet critical examination of specific concerns about the ways humans alter nature. The second half works within this framework to conduct a comparative analysis of some of those concerns. Each chapter looks at how the concept of “nature” is deployed in a different social debate and how the deployment fares. Four debates are examined in depth: arguments about preserving the environment (ecosystems, “wildernesses,” and endangered species, for example), about genetically altering livestock and crops, about synthetic biology, and about human enhancement. In the
course of considering these debates, these chapters also provide an opportunity to further explore and elaborate the framework developed earlier. The chapters are intended both to complement each other and to work independently.

The rationale for setting these seemingly diverse problems alongside each other is that the comparisons might be illuminating. The literature on environmentalist concerns, for example, might suggest new ways of thinking about the human enhancement debate; concerns about human enhancement have seemed to founder on the difficulty of identifying a natural state of affairs or of explaining why it can have intrinsic value, and environmentalist philosophy provides resources that could help overcome those problems. On the other hand, comparisons across debates might in some cases allay a concern or show its limitations. The concerns that have been expressed about synthetic biology draw on but also contrast with concerns about human alteration of the environment, for example, and the contrast might lead to a reevaluation of the sense in which synthetic biology really changes the human relationship to nature. In short, both the commonalities and the differences across these topics need attention. The fact that there are linkages among the various debates about the human alteration of nature does not mean that they are all of a piece. At the end of the day, within these different debates, one may reach fundamentally different views about the moral ideal of preserving nature.

Conducting the study in a comparative fashion also addresses a gap of sorts in the literature—or really, the literatures. Much has been written about human enhancement, much about agricultural biotechnology, and much about the status of the environment, but, for the most part, these discussions have occurred in isolation from each other. Bioethicists mostly do not read journals that publish on agricultural ethics and environmental ethics, and scholars in environmental ethics mostly do not think of themselves as doing bioethics or agricultural ethics. As a result, their approaches to concerns about nature can easily seem ad hoc and disconnected.

For example, critiques of human biotechnology sometimes seek to show how moral values are tied to human nature: Leon Kass argues that human embodiment is connected to the concept of human dignity, whereas Jürgen Habermas, coming at the issue from a very different political perspective, argues that parents should not enhance their children because doing so would undermine the child’s capacity for autonomy. Neither approach obviously lends itself to making sense of concerns about animal nature or the environment. Objections to agricultural biotechnology, on the other hand, sometimes rest on claims about the value of preserving “animal integrity” or “species integrity,” which involve claims about species norms
and holistic functioning. These views might be adapted to underwrite criticisms of human biotechnology, but they have no immediate relevance to debates about preserving the environment. Meanwhile, some environmental philosophers have considered whether ecosystems and trees may themselves have value, understanding value as a property that exists in the universe independently of human interests, and they have looked for metaphysical theories that would make sense of that conception of value. But how that kind of account would apply to human biotechnology is an open question.

These arguments should be in dialogue with each other. The problems are not quite as diverse as the disconnectedness of their treatment would suggest. On the face of it, the reservations many people have about agricultural and medical biotechnology and human overhaul of the environment appear to be analogs to some degree, given that they are all about the value of accepting natural states of affairs, of resisting the societal drive to reengineer all the world. If, at the end of the day, we reach fundamentally different conclusions on different topics, then there must be differences in how the concerns are developed, but, given the underlying base similarities among the concerns, it is well worth looking carefully for an account that recognizes the similarities.

There are many other social debates that invoke the concept of nature than those discussed here; claims about what is natural also appear in debates about sexual practices, gender roles, race relations, assisted reproduction, and parenting. Some of the discussion in this book has implications for these topics: debates about whether homosexuality is intrinsically undesirable (because unnatural) could draw on observations offered in Chapter 2 about moral argument and on some positions developed in Chapter 8 about how claims about human nature figure in morality, about the distinction between population norms and individual differences, and about the extent to which human beings are self-creating entities. But while these other debates should eventually be addressed in order to thoroughly examine the concept of nature, they are not front and center in this book. The debates taken up here—about environmental preservation, genetically modified organisms in agriculture, synthetic biology, and human enhancement—revolve around the contrast between preserving or altering one or another existing state of affairs. These other debates have more to do with whether states of affairs believed to be natural provide guidance for human relationships with each other. The idea of nature can still figure in these topics in complex ways; I have argued in another place, for example, that a biological relationship with one’s children cannot be privileged above adoptive relationships on grounds that
one is natural and the other merely social, but also that where there is a biological relationship, that fact can become a very meaningful part of that parent–child relationship. But a complete discussion of these other topics is not attempted here.

Also, for those topics that are taken up here, there are many other moral arguments to be weighed than are discussed here. The debate about environmental protection, for example, is moving beyond local concerns—preservation of particular wild spaces and species—toward planetary problems—prevention or correction of global warming, air pollution, and ocean acidification. Chapter 5 mentions such issues but does not address them in detail. These concerns are extremely urgent, but they can be handled by means of relatively traditional moral concepts, without invoking the idea that nature is intrinsically valuable. In fact, some environmentalists argue against the kinds of moral concerns addressed at length in Chapter 5 on grounds that they distract from the really serious, global environmental problems. Whether that is true, in my view, is a question of political strategy more than of morality.

The ultimate goal of the book is to mark out a middle way—to provide a way of thinking about the human relationship to nature that neither leaves all objections to altering nature standing nor wipes them all off the table as illegitimate. At least within academia, this middle way has been elusive. Scholarly debates have tended toward extreme polarization, with some scholars suggesting that concerns about altering nature are profoundly important whereas others argue that they are irrational, even incoherent. The overarching theme in this book is that they can be legitimate and serious, but also that they are complex, contestable, and limited: they are not a kind of moral trump card, capable of closing down a debate. Nor do they work equally well in every debate in which they are articulated. Nor does every way of articulating them—for there are several—work equally well. But precisely by recognizing these difficulties, we can make sense of them.
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I have tested out some of the ideas in this book by attempting to articulate them in various formats—to audiences at the University of Minnesota, Yale University, the University of California at Berkeley, the University of Oklahoma, Purdue University, the University of Tokyo, and Freiburg University, and in several previously published papers. Chapter 2 builds on “Reasons of the Heart: Emotions, Rationality, and the ‘Wisdom of Repugnance,’” published in the Hastings Center Report in 2008 (volume 38, number 4); Chapter 6 incorporates elements from “Putting Concerns About Nature in Context: The Case of Agricultural Biotechnology,” published in Perspectives in Biology and Medicine; Chapter 7 is based closely on “Engineered Microbes in Industry and
CHAPTER 1

The Nature of “Nature”

What to Ask of a Concept

It is often extremely difficult to identify a “natural” state of affairs. Is the tallgrass prairie “natural,” or does the fact that human beings maintained it by regularly setting fires establish that an entire ecosystem we associate with the American Midwest was actually a kind of human artifact? What about cows or corn, bred respectively from the now-extinct European aurochs and from one or another species of the Mexican grass known as teosinte? Is an uncommonly muscular human body “natural” if it is achieved through the use of steroids and human growth hormone? How does it compare to a similar body sculpted only by means of careful food choices and a rigorous weight-lifting regimen? Or what if it were achieved instead by modifying the person’s genes?

Such questions have led many commentators to dismiss the concept of nature as unsustainable. Nonetheless, the concept is still often taken for granted in ordinary conversation. Kate Soper leads off her complex and extended exploration of what “nature” means by emphasizing just this point:

Its complexity is concealed by the ease and regularity with which we put it to use in a wide variety of contexts. It is at once both very familiar and extremely elusive: an idea we employ with such ease and regularity that it seems as if we ourselves are privileged with some “natural” access to its intelligibility; but also
an idea which most of us know, in some sense, to be so various and comprehen-
sive in its use as to defy our powers of definition.¹

The difficulty of understanding how to think about the concept of nature is
possibly the most fundamental problem in getting clear on whether leav-
ing nature alone can ever be morally desirable. It is certainly the threshold
problem; we must consider it before there is any point in turning to some
of the further problems that arise.

There are actually two parts to the problem. First is a problem of finding
a suitable definition of “nature.” The concept can seem too multifarious and
vague, an assortment of possible meanings that are individually unworkable
and collectively a useless jumble. “Nature” can refer to the world prior to or
independent of human meddling, or to a state of human life prior to the com-
plications of civilization, or to the realm of things suitable for scientific inves-
tigation, or to the typical make-up of kinds of things (the nature of rocks, or
cows, or humans), or to the unique make-up of particular things (as in, “it’s in
his nature to do that”). It can refer to what’s growing in the garden or to what
the gardener tries to keep out of the garden or to the forces that the gardener
is sometimes grumblingly dependent on. “Natural” may mean “in accordance
with physical or biological regularities,” or “unaltered,” or “unadorned and
honest,”² or “typical and acceptable” (as opposed to perverse). It may mean
“predictable,” as in, “Naturally, the plumber didn’t show up on time . . .”;
or something akin to “rational” or “sensible,” as in “The natural conclusion is
that . . .”; or “unaffected” or “at ease,” as in “Try to look natural . . . .”

The second problem is that the understanding of “nature” might be a
cultural construction—a historical development that could have gone dif-
ferently and that happened only recently. If so, can the concept be legiti-
mate? More than once when I have mentioned to somebody my interest in
moral attitudes about the human relationship to nature, that person has
set the whole inquiry aside with a wave of the hand: “Oh, ‘nature.’ That’s a
nineteenth-century invention, you know.”

The two problems are distinguishable. The first has to do with coherence
and the second with justification: the first charges that “nature” admits
no useful definition and the second that particular definitions are not
grounded in the way they should be to be morally useful. The problems are
related, though. Both charge that the distinctions typically drawn between
“natural” and “not natural” do not describe the world appropriately—that
they do not group things together coherently (the first problem), perhaps
because they are not guided by the world as it really is (the second prob-
lem). Thus, both suggest the ultimate indefensibility of the distinction
between “natural” and “not natural.”
ARE HUMANS COMPATIBLE WITH NATURE?

The debate about how to define nature goes back a ways. The definitive critique was set out by John Stuart Mill, in an eloquent and indignant essay called simply “On Nature.” Mill argued that “nature” usually means one of two things: “In one sense, it means all the powers existing in either the outer or the inner world and everything which takes place by means of those powers. In another sense it means, not everything which happens, but only what takes place without the agency, or without the voluntary and intentional agency of man.” Neither of the meanings, however, supports any recommendations for action: if “nature” means everything that conforms to the laws of physics, then everything is natural, including whatever humans may do to the world around them. If “natural” refers only to that which is free of human interference, then nothing we do is natural. Either way, the concept tells us nothing about what we do to nature and cannot be used to make any distinctions about good, acceptable, undesirable, or outright wrong kinds of things that we can do to nature.

The first thing to note is that the concept of nature can have different uses in moral argument and that Mill is criticizing a particularly ambitious way of using it. Mill’s objection is to the idea that nature provides moral guidance: “When it is asserted or implied that nature, or the laws of nature, should be conformed to, is the nature which is meant nature in the first sense of the term, meaning all which is . . . ?” This makes no sense, Mill explains: “Man necessarily obeys the laws of nature, or, in other words, the properties of things, but does not necessarily guide himself by them.” And, if we take “nature” in the second sense, as that which takes place without human intervention, then taking our cue from nature would simply be wrong. “In sober truth, nearly all the things which men are hanged or imprisoned for doing to one another are nature’s everyday performances.” If we are trying to determine how people should treat each other, then, we do particularly poorly to turn to nature for ideas. As Bonnie Steinbock puts the point in an examination of Mill’s critique, “nature is not the source of substantive moral rules.”

Another, much more modest way in which the concept of “nature” can enter into morality, however, is that it could be a subject of moral guidance; as Steinbock also notes, it can and should have value. Here, nature is not a guide to morality, but a topic within morality. The issue is the value of nature, not obedience to nature. Mill himself writes about the value of nature:

Nor is there much satisfaction in contemplating the world with nothing left to the spontaneous activity of Nature; with every rood of land brought into cultivation