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Project Title: The Ideal of Nature: Appeals to Nature in Debates about Biotechnology and the Environment

Institution: Hastings Center

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Grant Program: Collaborative Research

The Ideal of Nature: Appeals to Nature in Debates about Biotechnology and the Environment Significance and Impact

Claims about “nature” and the “natural” are increasingly common in popular, policy, and philosophical debates. Yet remarkably little has been done in a sustained, systematic way to clarify the philosophical issues underlying their use, particularly for public policy purposes. This project, responding to the National Endowment for the Humanities call for collaborative research “that uses the knowledge, methods, and perspectives of the humanities to enhance understanding of science, technology, and medicine,” will take up that effort.

Perhaps the most prominent of the social debates that feature appeals to nature address what people may do to themselves or to others. Here, appeals to nature take the form of claims about what is natural and therefore intrinsically desirable for human beings, as a species. Many of these debates are about medical biotechnology. A growing number of commentators have suggested, for example, that altering humans’ genetic endowment is at odds with the special value of what is “naturally given” to human beings. But some of these debates do not focus in new technologies: salient among these is the debate whether some forms of human sexuality are unnatural and therefore wrong.

Appeals to nature also include claims about the treatment of *nonhuman* entities, including animals, plants, and even ecosystems. For example, although the growing international dispute about agricultural biotechnology has hinged mainly on the possible bad consequences that genetically modified plants and animals might have for humans, the idea that moving a gene from one species to another might be an intrinsically unacceptable change to a species’ nature has never been far from the surface, as rallying cries of “Frankenfood” suggest. Similarly, although environmentalism often seems grounded on the concern that environmental degradation may harm human beings, that concern does not easily justify some of the most hotly contested environmental initiatives, such as the preservation of wilderness areas, the restriction of old growth logging, and the protection of endangered species.

A spate of recent scholarly and popular books, reports, and articles have developed various appeals to nature, but there has been no sustained comparative look at the range of appeals to nature. Without this comparative work, we lack an adequate understanding of how appeals to nature function in moral and political arguments, and therefore do not understand whether or how moral and political debate can accommodate them. We propose to take up this slack in an investigation structured so as to address three sets of questions, each directed at the three main topics on which appeals to nature are used – medical biotechnology, agricultural biotechnology, and environment:

- What is meant by “nature” or “natural”? What similarities and differences are there in how the idea of “nature” figures in different kinds of social debates?
- What is valued about nature and natural states of affairs? Can they sensibly be valued for their own sake? Do the different uses of “nature” function similarly?
- May appeals to nature affect public policy? If so, are they moral “trump cards,” or can they be weighted against other moral concerns?

Wrestling with these questions promises to help inform the debates about the progress of medical and agricultural biotechnology and the preservation of the environment.

**The Ideal of Nature:
Appeals to Nature in Debates about Biotechnology and the Environment**

NARRATIVE DESCRIPTION

I. Substance and Context

Introduction

An increasing number of social debates feature what might be called “appeals to nature”—claims that nature or a natural state of affairs possesses some special value that should be weighed in moral decision-making and protected in public policy. These appeals are of a variety of kinds and involve many different understandings of what “nature” means. None of them fits easily into the classical accounts of moral values in Western moral philosophy. Yet they have enduring power in everyday moral discussion and, recently, wider acceptance in the scholarly literature, giving them increasing clout in a range of contemporary social debates.

Where “Nature” Is Used. The social debates that feature appeals to nature can be usefully grouped into three domains. Perhaps the most prominent domain concerns what humans may do to themselves and to others—in particular, what they can do to themselves or others with the help of medical technology. It is on this topic that “nature” is invoked most explicitly and, arguably, has been developed most thoroughly. For example, Michael Sandel argues that the “deeper danger” in using gene transfer technologies to enhance ourselves or our children is that it represents “a Promethean aspiration to remake nature, including human nature, to serve our purposes and satisfy our desires” (Sandel 2003). In sports, it is commonly held that we should not use performance-enhancing drugs to wash out natural athletic gifts. Carl Elliott and others have raised questions about using antidepressants to become, in an oft-repeated phrase, “better than well” – unnaturally happy and therefore alienated from our authentic selves (Elliott 2003). The President’s Council on Bioethics, formed by President Bush in August 2001 to address the ethical

and policy ramifications of biomedical innovation, argues that reproductive cloning (which the Council labels “cloning-to-produce-children”) would “represent a challenge to the nature of human procreation and child-rearing.... [C]loning would be most unusual, consequential, and most morally important as a new way of bringing children into the world” (President’s Council 2002). From a very different political perspective—for appeals to nature are not restricted to any one political viewpoint—the environmentalist Bill McKibben has followed up his book *The End of Nature* with a book lamenting that human genetic engineering and other technologies will bring about “the end of human nature.” And people of a variety of viewpoints hold that we should die natural deaths, not planned ones carried out with doctor’s assistance, and not indefinitely prolonged ones made possible by tomorrow’s “anti-aging” technologies.

In large part because of the influence of the President’s Council, appeals to nature concerning medical technology could eventually influence public policy. But appeals to nature have long had an influence on public policy in some nonmedical contexts where they are invoked, especially concerning sexuality. Wide swaths of the population hold that certain sorts of sexual acts—or any sexual acts between certain people—are unnatural and therefore morally objectionable—and public policy has long reflected this feeling, and arguably still does. Similarly, to pick an example where an appeal to nature may be actively leading to new policy, many also think that biological parents should be recognized as a child’s “true” parents (over adoptive parents, for example), and some states are now revising their laws on genetic testing in order to promote the rights of biological fathers.

In some other high-profile social debates, appeals to nature are about nonhuman entities. One set of such debates is about agricultural biotechnology and what might be called “pet biotechnology”—such as the recent development of a fish, originally created for industrial purposes but now marketed as a pet, that glows red or green in the dark. These appeals to nature are frequently subordinated to other moral concerns, such as that agricultural biotechnology will have bad environmental consequences or bad consequences for human health and well-being.

Much of the argument about genetically modified corn, for example, has to do with whether it might kill off monarch butterflies. On the other hand, the language in these debates—such as “Frankenfood” and “Monsatan” (playing on the name of a company, Monsanto, that produces genetically modified seeds)—suggests that those opposed to biotechnology think the problem is something more: something ungodly, something reminiscent of Dr. Frankenstein. And at times the appeal to nature also emerges openly. Some European philosophers have argued, for example, that genetically modifying chickens to become insentient egg producers would unacceptably violate their “species integrity,” even though it would benefit humans and possibly even chickens (Bovenkerk et al. 2002). When the California Fish and Game Commission decided to ban the “Glo-fish,” one commissioner told a reporter with the *San Francisco Chronicle*, “At the end of the day, I don't think it's right to produce a new organism just to be a pet. What's next? A pig with wings?... Welcome to the future. Here we are, playing with the genetic bases of life.”

When the argument against agricultural biotechnology rests on a concern about its effect on the natural world, it may amount to an indirect appeal to nature, for the environment is the focus of a third important category of debates involving appeals to nature. As in debates about agricultural biotechnology, appeals to nature in environmental disputes take the form of claims about what is natural for nonhuman entities, in this case about the patterns and diversity of species, wildernesses, ecosystems, and other natural phenomena. If debates about medical biotechnology involve claims about human nature, and debates about agricultural biotechnology involve claims about nonhuman nature in human settings, environmentalism is about nonhuman nature in isolation from human beings.

In the environmental domain, unlike debates about animal and medical biotechnology, appeals to nature seem to have already contributed to policy. The Endangered Species Act of 1973, for example, arguably presupposes that species ought to be preserved for their own sake—or more accurately, that species ought to be protected from human endangerment for their own sakes, and allowed to go extinct only through natural causes. Certainly many of the species in

whose interests the act is invoked do not provide significant benefit for humankind—not enough to outweigh the benefits of the hunting, fishing, logging, or recreational activity that threatens them. And the anger and indignation that environmentalists feel about species loss seems to reflect an underlying concern about the species themselves. The underlying motivation is a sense that it is simply wrong, at least in the absence of very strong countervailing considerations, to cause naturally occurring forms of life to disappear from the world. Likewise, the Wilderness Act of 1964 appears to presuppose the intrinsic value of spaces that are, in the language of the act, “untrammelled by man.” If they are untrammelled, then relatively few people are directly benefiting from their preservation, and the moral rationale for their preservation seems to lie in something other than human benefit. Again, in the debate over logging old-growth forests, the problem with logging them all cannot be just the loss of a valuable resource: not to log them is also to lose the resource. Similar impulses may lie behind the federal national park system, the idea for which is sometimes credited to the artist George Catlin and his hope that some of the West might be “A nation's park, containing man and beast, in all the wild and freshness of their nature's beauty!”

How “Nature” Might Be Misused or Misunderstood. These various appeals to nature all assume that we can talk about states of affairs that are, as it were, “given” in the world. It should not be assumed that the appeals are all perfectly alike, however. In the kind of comparative inspection proposed in this project, they might turn out to be different in ways that should help determine whether, where, and how they can be of use in moral argument and policy-making. For example, they might make very different claims about the relationship of human nature to the rest of nature: possibly some appeals present human nature as part and parcel of nature writ large while others emphasize whatever distinguishes human nature from the rest of nature. Whether they do will depend in part on how they construe “human nature,” and different positions are also possible here: the formulation of some appeals might emphasize physical,

“embodied” nature, others the mental life. Yet again, although appeals to nature seem likely to agree on a philosophical assumption that the world can be understood as falling into natural kinds—especially species—possibly they could allow that “kinds” are human ways of organizing and discussing what are in fact only rough-edged clusters, surrounded by borderline cases. If they assume that natural kinds exist, they might rely on genetic markers to distinguish kinds, or they might take guidance from phenotypic reference points. Thus they might also differ in relying on different factual claims.

The fact that appeals to nature seem to have influenced environmental policy hints at why a broad comparative examination of different appeals to nature could prove helpful. The apparent public acceptance of appeals to nature for environmentalist causes suggests that they might, at least in principle, and if appropriately developed, ground substantive public policy in agricultural biotechnology and medical biotechnology. Alternatively, perhaps appeals to nature in debates about medical biotechnology are deeply problematic, and the arguments lodged against them also tell against appeals to nature for environmentalist causes. Yet again, perhaps appeals to nature in different domains they can be sharply distinguished from each other. It may be that medical biotechnology, agricultural biotechnology, and the environment are subjects so dissimilar that each demands an entirely different approach when it comes to matters of public policy. If so, maybe appeals to nature in medical biotechnology are trading unacceptably on the success of those in environmentalism.

One feature common to all appeals to nature, however, is that people are unsure about how to employ them. In debates about medical biotechnology, where they are invoked most explicitly, there is widespread and sometimes vitriolic disagreement about their legitimacy. In environmentalism, where they have apparently been effective, they are rarely explicit. The Endangered Species Act declares that “[endangered] species of fish, wildlife, and plants are of aesthetic, ecological, educational, historical, recreational, and scientific value”; that they are of intrinsic moral value is not mentioned. The Wilderness Act declares obscurely that the

establishment of wilderness areas would advance “the permanent good of the whole people, and... other purposes.” In environmentalism, appeals to nature are likely to be only suggested, or to be simply *shown*, by visual imagery and poetic language. In short, appeals to nature are most explicit where one might least expect to find them—in debates about which human relationships and behavior are morally acceptable—and less common, and sometimes only implicit, where one might most expect to find them—in debates about how to treat the natural world. Roderick Nash recognized this in one of the early scholarly treatments of environmentalist sentiments:

In the American past, wilderness advocacy characteristically took the form of highly emotional and often frantic defenses of particular places, species, or experiences: “Save the Grand Canyon!”... Such exhortations passed for argument. No one, at least no one in the movement, was supposed to ask “Why?” Wilderness appreciation was a faith. Its unexamined premises might have great importance to an individual, yet that did not help much in the brass tacks political and economic arenas.... Implicitly admitting as much, preservationists resorted to arguments unrelated to their central concern. Thus, opponents of dams argued over benefit-cost ratios... instead of explaining the values of wild rivers and their canyons. The need was for ideas that defend wilderness in general.... (Nash 1982)

The Structure of the Project

We propose to build a comparative examination of appeals to nature in three steps, by considering three broad sets of questions. We will start by asking what “nature” or “natural” means in different contexts. The goal here is to clarify the similarities and differences in how the idea of nature figures in different kinds of social debates. Then we will ask what the value of nature and natural states of affairs is said to be, not seeking to redo the work that has already been done on this question in some domains, particularly in medical biotechnology, but trying instead to understand how the moral claims contained in different appeals to nature are supposed to work—what they imply about the very nature of moral values, and whether they fit into a plausible overall account of value. Third, we will ask whether and how appeals to nature may affect public policy, and in particular how they are to be considered alongside the other kinds of moral claims that influence policy-making—those about safety, benefit, and individual rights.

The Meaning of “Nature.” “Nature” is a famously complicated term, employed, as has often been noted, to make a variety of different points at different times. In the moral and policy debates described here, it is apparently intended to refer to a state of affairs prior to or independent of human interference in them—one of the meanings that John Stuart Mill gave it in his extended attack on it (Mill 1998), and which Kate Soper identifies as “the commonest and most fundamental sense” of the term (Soper 1995). There are good reasons to be skeptical whether “nature” or “the natural” can be explicated in this way, however, and responding to these objections requires a careful exploration both of the concept of nature and, so to speak, of the nature of concepts.

The most straightforward and common objection to any attempt to delimit the natural is to offer counterexamples: How can gene transfer be “unnatural,” for example, if genes are sometimes transferred from one species to another “in nature”—without human involvement—whenever twins are born? In general, is any medical intervention anything but an intervention into a naturally occurring disease process? People have been genetically modifying crops and livestock for thousands of years already simply through breeding. Many landscapes and ecosystems regarded as natural turn out to have been influenced to some degree by humans; does that make them “unnatural”?

The core problem with the concept of nature is that it threatens either to expand to the point that everything is “natural” or to diminish until nothing is natural. In biomedical ethics, this objection was advanced in an early, influential form by the President’s Commission for the Study of Ethical Problems in Medicine and Biomedical Research. In its 1982 report *Splicing Life*, the commission quickly dismissed all appeals to nature by showing that if appeals to nature are objections to interfering with nature, then we are quickly caught in a dilemma: in one sense, all human activity interferes with nature, and medicine is nothing but determined interference in nature; in another sense, no human activity can interfere with nature, inasmuch as human activity always conforms to the laws of physics, which are the fundamental laws of nature (President’s

Commission 1982). This objection has also been developed in environmental ethics by many commentators. Steven Vogel, for example, argues that there is both human artifice throughout what is taken as “natural” and nature in every human artifact (Vogel 1996).

But such objections have not discouraged other commentators from trying to employ the concept of nature. Perhaps most famously, Leon Kass argues that the biological facts of human mortality and sexuality are foundational for many moral and aesthetic values, and biomedical innovations that attempt to change these fundamental facts damage our moral world and ought to be opposed as a matter of public policy. Like Kass, Francis Fukuyama holds that human nature is crucial to human dignity (and also to the claims of justice that assume basic human equality), and he defines human nature simply as “the sum of the behavior and characteristics that are typical of the human species, arising from genetic rather than environmental factors” (Fukuyama 2002). Similarly, the President’s Council, on which Kass and Fukuyama now serve, has argued for a ban on reproductive cloning partly on grounds that it is at odds with the meaning of sexual reproduction (President’s Council, 2002), and it has argued against using medical technology for enhancement purposes on grounds that “there may in fact be many human goods that are inseparable from our aging bodies, from our living in time, and especially from the natural human life cycle by which each generation gives way to the one that follows it” (President’s Council, 2003). These conclusions rest on the view that the body, with its “natural” characteristics and especially its limits, is integral to human goods.

Such conclusions have become associated with conservative bioethicists, but they are not unique to them. William McKibben, a former staff writer for *The New Yorker*, comes to very similar conclusions from a largely liberal political position. McKibben admits that there are problems with deciding what human interventions are nonnatural, but he maintains that we can find morally relevant differences among a variety of different interventions into human nature: some constitute dramatic departures from a common cultural understanding of human nature and ought to be opposed (McKibben 2003).

In environmentalism, too, nature is assumed to be definable—clearly enough, at least. The Wilderness Act assumes without debate that we can determine what constitutes wilderness. In an early scholarly work on environmentalist philosophy, Nash holds that, though wilderness “is so heavily freighted with meaning of a personal, symbolic, and changing kind as to resist easy definition,” it can still be usefully described as referring to a spectrum of conditions, “from the primeval to the paved” (Nash 1982). More recently, Vogel, trying to refine “natural” partly in order to defend the naturalness of environmental restoration, has argued that although “natural” cannot be only that which is free of human involvement, it can still be understood as that which is not under human *control*. If a restoration project launches a self-balancing, self-sustaining chain of interactions among organisms and the environment, it counts as “natural” (Vogel 2003).

These ways of defending “nature” direct us to consider how concepts in general function in discourse, and what may reasonably be asked of them. The objection that “natural” either embraces or excludes everything implies that the concept is completely devoid of content, but the fact that people continue to use the term to communicate with each other suggests that it may be making comprehensible and widely accepted distinctions. Indeed, in medical policy contexts, concepts that are at least closely allied to “nature” are regularly and inevitably employed. For example, we must have some fix on what “health” is so that we decide what health care services to cover. “Health” is usually defined in terms of “normal human functioning,” which is precisely what many opponents of medical enhancement technologies want “human nature” to pick out.

One way of defending the idea of “nature” would be to hold that useful concepts can nonetheless be “open-textured” and essentially contestable, in the way sometimes imputed of many legal principles. If so, then it may be that people can agree on an assortment of paradigm cases of “natural” and “unnatural,” from which argument can proceed case by case.

Wittgenstein’s view that concepts are inherently “fuzzy” to one degree or another is also important here. Certainly many other important moral notions also elude any final articulation, and especially the familiar, touchstone concepts, like “kindness” or “cruelty,” that are vital to

everyday moral conversation. Those who appeal to nature sometimes acknowledge its open-textured character: Leon Kass allows that “human dignity,” a concept he holds is rooted in human nature, is a “soft abstraction” (Kass 2002). Unfortunately for Kass and like-minded thinkers, the fuzziness of “nature” might still differentiate it from other values: it might simply be fuzzier.

The Value of Nature. That “nature” has no clear meaning is the first general objection lodged against it. Another is that nature has no particular moral value. Appeals to nature generally suppose that nature or natural states of affairs should be valued for their own sakes—that nature has “intrinsic” moral value. Environmentalists often hold that “untrammelled” spaces and endangered species should be protected and preserved no matter what their benefits to people, and critics of biotechnological human enhancements argue that human nature is the basis for many human goods. But these claims are not easily explained or defended.

The most common objection, again, is to cite counterexamples. If breeding dogs, treating diseases, and constructing dams are agreed not to be natural, yet are also held to be frequently acceptable, sometimes even commendable, then the supposed intrinsic value of nature is a mirage, say the concept’s critics. Pain in childbirth is often mentioned in this connection: there was considerable opposition to the introduction of analgesics for women in labor, but today, the moral calculus is reversed, and denying analgesics would be considered unacceptable.

Other possible objections are conceptual. Western philosophers have sought firm justifications for morality, and they have tended to try to make use of the unique characteristics of humans, or at most of sentient creatures, such as rationality, consciousness, the capacity for pleasure, or the practice of communication. Appeals to nature thus do not appear capable of relying on the traditional moral concepts for justification, and indeed, they may well be fundamentally at odds with those concepts. Indeed, the very point of morality, arguably, is precisely to *counter* nature, insofar as morality enjoins people to restrain their natural urges and to

compensate for the natural evils that befall other people. Thus appeals to nature seem to be at odds with the overall drift of Western moral philosophy.

Perhaps because appeals to nature appear to transcend the usual moral categories, they are often couched in religious terms. Inappropriate interventions into nature are compared to “playing God,” for example. But religious phrasing like this may be no more persuasive than secular phrasing; indeed, a considerable literature argues that many religious traditions permit humans to play an active human role in the world (National Bioethics Advisory Commission 1997). Further, appeals couched this way risk being irrelevant to those who reject religious justifications, and they might be completely unacceptable for use in policy-making. Nor would a religious justification automatically defuse counterexamples and conceptual objections. In any event, religious perspectives are not at the core of the project proposed here, which seeks to consider whether and how appeals to nature can have broad secular legitimacy. (Religious perspectives are the focus of a research project conducted at Rice University and Baylor College of Medicine, funded by the Ford Foundation, and titled “Altering Nature: How Religious Traditions Assess the New Biotechnologies.”)

If appeals to nature are to have secular legitimacy, either their relationship to other, familiar values must be reassessed or the conventional view of which moral concepts are legitimate must itself be rethought. Many philosophers have attempted the first strategy, by forging firmer links between appeals to nature and familiar value terms. In environmental ethics, for example, Bernard Rollin has argued that appeals to nature are best understood as *aesthetic* claims, but that there are powerful moral reasons to respect other people’s aesthetic valuations and preserve what they find aesthetically important. The real *moral* considerations, however, are fundamentally utilitarian (Rollin 1995). Thomas Hill, taking a Kantian tack, has suggested that an attitude of respect and preservationism toward nature might be valued, even though nature does not itself have value, because such an attitude is a sign of a virtuous character (Hill 1992).

Some prominent critics of biomedical technology have also tried the strategy of arguing that human nature is important for other moral values. Francis Fukuyama, for example, has argued that human rights are grounded in typical human needs, desires, and abilities. It is our roughly equal cognitive abilities “that raises us all above the rest of animal creation and yet makes us equals of one another qua human beings” (Fukuyama 2002). If medical technology changes our nature in ways, and to a degree, that it no longer matches our self-understanding, then we will not be “human” beings any more, as we now use that term; we will be “post-human” beings. And with that change, the concept of “human dignity” will have lost its moorings, and claims about human equality will have lost their justification. Similarly, some of the President’s Council’s objections to biotechnology seem to be rooted not in the value of nature per se, but in the traditional values of persons or human welfare. For example, cloning to produce children might represent a failure to treat the child as a full human being and might cause the child to suffer anxiety about its identity and its relationship to its parents (President’s Council 2002).

The other strategy, that of rethinking conventional views about which moral concepts are legitimate, consists in showing how nature or natural states of affairs can have moral value *independently* of any connections to our attitudes about people or human welfare. This strategy directs us to fundamental philosophical questions in the foundations of morality.

An extreme form of this strategy is found in the work of environmental philosophers who have sought to show that nature can have an especially strong kind of intrinsic value—that in addition to having a *noninstrumental* value (meaning that it is valued as its own end, not merely as a way of achieving other ends), it also has value independently of whether anybody gives it value—it has value both *in* and *for* itself (Rolston 1988). The ultimate goal is to build values directly into the “fabric of the universe” (as philosophers sometimes say), alongside the objects studied by science. These positions are supported by elaborate metaphysical systems designed to explain the existence of this value. Arne Naess, for example, proposes that the relations between entities are partly constitutive of the entities themselves, so that even such seemingly subjective

properties as that of “being melancholic,” although ascertainable only to valuers, can nonetheless be real features of the world (Naess 1989). These positions lie at the margins of mainstream Western philosophy, however, and are set to one side in this project.

Another radical and difficult strategy, though one with a long philosophical pedigree, is the classical natural law tradition, which sought to make nature itself the foundation of morality. Natural law is typically invoked in discussions of human behavior and relationships, but in principle it could also provide moral guidance for treatment of the environment. Classical natural law theorists viewed nature as organized into objectively existing natural kinds, each of which strives toward some ideal or *telos* that was the source both of moral guidance and of suitable law.

Contemporary critics of biotechnology sometimes appear to adhere to the natural law tradition. Leon Kass, for example, sometimes appears to claim that we arrive at the right values by inspecting the natural world and drawing moral inferences—in effect, by deducing moral positions directly from claims about nature (Kass 2002). Kass is especially interested in finitude as a feature of the human condition, and he sometimes seems to suggest that simply because we are finite creatures, we *ought* to live our lives in a certain way—committing ourselves to stable loving relationships and to procreation, for example.

Another possibility is that Kass construes the move from nature to values not as deductive, but as causal: some things that we value *depend* on our bodily nature and the limitations and desires that we have because of it. “Like the downward pull of gravity without which the dancer cannot dance,” he writes, “the downward pull of bodily necessity and fate makes possible the dignified journey of a truly human life. It is a life that will use our awareness of need, limitation and mortality to craft a way of being that has engagement, depth, beauty, virtue and meaning—not despite our embodiment but *because* of it” (Kass 2002). The critical deductive move, then, is not from human nature to values, but from values to our stance toward human nature: on the basis of a careful understanding of the human goods, we draw inferences about what interventions will preserve those goods.

A third and more metaphysically modest way of incorporating appeals to nature into morality starts by positing that nature has intrinsic value only in the weak sense of having *noninstrumental* value. It relinquishes the stronger claim that nature has value independently of whether people ascribe it value, but adds that in fact nothing has value in the stronger sense. A variety of theories of value might be deployed to develop this line. In environmental ethics, J. Baird Callicott has leaned on the Humean view that moral deliberation is rooted in moral sentiments (Callicott 1999; Callicott 1986). In this Humean account, moral values in general rest on the human ascription of value, and claims about the intrinsic value of natural states of affairs fare no worse than claims about the special value of persons or of the cognitive states or capacities they possess. In medical ethics, some theorists, including Thomas Murray, have turned to an Aristotelian account, which relies on the notion of human flourishing to provide a ground for moral values. (Accepting such an account might tend to undermine appeals to nature in environmentalism—an outcome that should not be foreclosed at the outset of the investigation.) Others have deployed Wittgenstein’s thoughts about the very idea of justifying any claim to knowledge to suggest that we ought simply to relinquish the search for morality’s ultimate foundations (Kaebnick 2000; Elliott 1999). In this view, it might be admitted that once we find ourselves talking about “intrinsic value,” the attempt to justify a moral stance has gone as far as it can go—it has “hit bedrock,” in Wittgenstein’s famous phrase. (Anti-foundationalist accounts will of course raise further questions about the *status* of moral judgment—including questions about whether moral judgments can be true or false and whether we are therefore compelled to accept moral relativism.) By and large, however, there has been relatively little work in bioethics on fundamental theories of value. Indeed, since medical ethics has been able to rely on assumptions about the moral value of persons and their characteristics, there has been relatively little need for it until the recent writings of Kass and the President’s Council, which seem sometimes to ascribe value to human nature itself.

Since traditional moral theories such as utilitarianism and Kantianism make little room for appeals to nature, defending those appeals may be easier if the processes of making moral judgments and engaging in moral discussions ultimately rest, not on moral theory, but on a rich cultural endowment of material, including everyday moral concepts such as “kindness,” “honor,” “integrity,” “conscientiousness,” and the like (Kaebnick 2001). Appeals to nature might then be understood as part of this richer tapestry of values. Certainly many of the critics of biotechnology employ richer value terms. Kass speaks of the possible threats to “engagement, depth, beauty, virtue and meaning.” Carl Elliott, following Charles Taylor, has argued that the critical language is that of living “authentically,” of not being a “fraud” (Elliott 2003). The President’s Council has emphasized that one’s children should be regarded as “gifts,” not as items prepared to specification. The theologian Lawrence Rasmussen writes of the importance of an attitude of gratitude, reverence, or loyalty to the earth (Rasmussen 1996). And Michael Sandel has written that the problem with medical enhancement technologies is “the drive to mastery. And what the drive to mastery misses and may even destroy is an appreciation of the gifted character of human powers and achievements” (Sandel 2004). Losing this gifted character, he adds, “would transform three key features of our moral landscape: humility, responsibility, and solidarity.”

However, one of the critics’ complaints about appeals to nature is precisely that they involve fuzzy moral concepts. Plainly, if we are to get any clearer on the use of these fuzzy concepts, on whether appeals to nature have any legitimate moral force or should be set aside as a failed intellectual experiment, we must try to understand how they fit into “the moral landscape.”

Appeals to Nature in Debate. A third set of concerns about appeals to nature flows immediately from the second: How do appeals to nature intersect with other values that guide moral deliberation and policy-making—how do they cohere with the rest of the moral landscape? When they are invoked, they often seem intended to bring moral debate to a stop. But if they are genuinely to play a role in secular moral debate, it must be possible sometimes to reject them, and

perhaps sometimes to criticize yet uphold them, or to accept but override them. In short, it must be possible to *argue* about them. But their critics contend that such argument is difficult to envision. Finally, one may wonder whether they have any role in *policy-making* even if they are part of secular moral discourse. A rich picture of the moral landscape may well include many important moral values that play no direct role in policymaking.

A number of interrelated issues arise in thinking about how appeals to nature figure in moral deliberation and policy-making. First is the appropriate role of counterexamples. Typically, counterexamples are offered in order to discredit *all* appeals to nature; like appeals to nature themselves, they are meant to stop discussion. Certainly a counterexample shows that an appeal to nature does not settle all cases in which it might be invoked. As a matter of logic, however, it does not show that all appeals to nature fail, nor that a specific appeal always fails, nor that an appeal to nature carries no weight at all. Further, a counterexample does not undermine an appeal to nature unless the counterexample is similar in morally relevant ways; to the extent that we can characterize the appeal to nature—by showing its relationship to such concepts as “giftedness,” for example—we might be able to argue more clearly about what is morally relevant. All of these points give reason to think that our use of counterexamples in moral and policy argument could be better understood, and counterexamples themselves better deployed.

Another issue in the use of appeals to nature in argument is the scope of the values that properly play into public policy-making. Even if we broadened the moral language to encompass appeals to nature, we might decide not to similarly broaden the language commonly accepted in policy-making. Possibly the language of public policy-making should be limited to terms on which there is very widespread agreement, or which can be applied in very clear and consistent ways. In particular, if appeals to nature are best expressed by rich concepts of everyday morality that cannot easily be formalized, then we might conclude that while they are part of the moral life, perhaps even critical to it, they do not belong in the policy-making context. In this respect, perhaps an attitude of reverence or thankfulness toward nature would turn out to be like warmth

or kindness toward other people—commendable, even crucial, but not suitable for public enforcement. At issue here, too, is whether appeals to nature are fundamentally religious in nature. If so, they might be an important part of public life without being admissible into public policy-making. By contrast, if appeals to nature can be indirectly reduced to or explained in terms of more familiar moral categories such as human happiness or individual liberty, then they would be likelier to fit into moral argument and policy-making.

Finally, even if appeals to nature can be used in policy-making, it might turn out that they are useful only in certain domains—in environmentalism, for example, but not in agricultural or medical biotechnology policy. Several possible reasons for such varying usefulness seem possible: It might be because the concept of “natural” is more readily defined in some contexts than in others. It might be because of how they intersect with other moral considerations; perhaps in environmental policy-making they do not conflict with individual liberty as starkly as they would in policy on medical biotechnology. Or it might be because of other features of the debates in which they are invoked: In the environmental domain, for example, some appeals to nature can be enforced *partially*; we can decide to preserve some wildernesses or some ecosystems but not others. Partial enforcement of appeals to nature is more difficult to describe for medical biotechnology: permitting reproductive cloning might have very wide social consequences for the concept of the family, for example, and permitting medical enhancement techniques for some people might lead eventually to the broad normalization of those techniques.

Finally, appeals to nature might influence policy indirectly. They might lead to policy in some domains not because they are decisive, but because they are one of several considerations that support a decision. Alternatively, they might affect policy indirectly: even if policy is not bound to uphold these values in particular, perhaps it should not trample, or should even uphold in some partial, limited way, values held dear by many citizens (Streiffer 2005). Just as we ought to respect another person’s choices even when we reject the thing chosen, so possibly the state should show some deference toward its citizens’ values even when it cannot endorse the value.

II. History of the Project

The Hastings Center has sought, since its creation in 1969, to understand the ethical and social implications of advances in medical technologies and the values that should limit and guide research and development into new medical technologies. Over the years, several of the Hastings Center's scholars have been intrigued by the idea that natural states of affairs provide some guidance for the use or development of new technologies. Daniel Callahan, founder and long-time president of the Center, has argued in several books that there is such a thing as a "natural life-span," and that the idea of a natural life-span suggests that medical resources not be spent primarily on developing expensive life-prolonging interventions for those who have already lived full lives (Callahan 1987). Thomas H. Murray, current president of the Center, has argued in many of his writings that a rich, well-developed conception of the human good, and especially of the central role of relationships in the good human life, provides guidance for the proper development and use of assisted-reproductive technologies (Murray 1996).

This project builds directly on four recent projects at the Center. One of these is an NEH-funded project titled "On the Prospect of Technologies Aimed at the Enhancement of Human Capacities," directed by Erik Parens, which concluded in 1997. That project's outcomes, including a project report in the *Hastings Center Report* and a collection of essays published in 1998, are widely regarded by professional bioethicists as the seminal works in bioethics on the use of medical technologies to enhance human function or appearance beyond the range of what is typically considered "normal" or "natural." The project focused on several examples of "enhancement" technologies.

The NIH-funded "Genetic Ties and the Future of the Family," led by Murray and Gregory Kaebnick together with Mark Rothstein and Mary Anderlik of the University of Louisville, examined the use of DNA-based paternity testing and its assumptions about and implications for the family. One of the central issues in this project was the importance of the

“natural” biological relationship for parenthood. Although the “natural” parent is often thought to be the biological parent, one might argue that the proper criteria for parenthood are psychological and social, and that while a genetic tie is often a very meaningful component of a parent-child relationship, it is not necessary for it. The two-year project concluded in December 2003.

“Ethical Conceptual and Scientific Issues in the Use of Performance Enhancing Technologies in Sports,” a project funded by the United States Anti-Doping Agency and led in part by Murray and Parens along with another Center scholar, Angela Wassunna, analyzed the justifications for either accepting or prohibiting performance enhancement technologies in sport. One of the central issues in this project was the common idea that athletes should develop their abilities through training regimens rather than by means of pharmacological, genetic, or other medical interventions. The two-year project concluded in December 2003.

The NEH-funded “Surgically Shaping Children” explored the ethical, social, and psychological issues posed by surgeries aimed at making children more “normal”—such as providing limb-lengthening surgery for children with achondroplasia (dwarfism). Part of the task of that project is to inquire into what “normality” means and how it should inform decisions made by families and policymakers. The project concluded in August 2003 and was led by Erik Parens.

The NIH-funded “Reprogenetics and Public Policy” turned away from philosophical issues toward policy. The final project report, on which Parens was lead author, argued that regulation of reproductive technologies, including cloning, should not be left to the market. The report offered a set of recommendations for how to achieve effective, bipartisan public discussion about them and sensible regulation of them.

All of these projects implicate questions about the natural, its moral importance, and its usefulness in debate. None of them were able to engage in a broad comparative assessment of how the idea of the natural figures across different domains, and none were able to take up in depth the underlying conceptual questions which the project proposed here would address.

III. Project Staff

The project working group will include both Hastings Center staff and external project group members. The Principal Investigator will be Gregory E. Kaebnick, Associate for Philosophical Studies at the Center and Editor of the *Hastings Center Report*, the leading journal in bioethics. Dr. Kaebnick's research has focused chiefly on theories of moral value and deliberation and on the ethical issues that arise over genetic technologies. He was a co-investigator on a research project funded by the National Institutes of Health and titled "Genetic Ties and the Future of the Family," which explored the implications for children and families of genetic paternity testing. Dr. Kaebnick also recently participated on the NIH-funded project, "Tools for Public Conversation about Behavioral Genetics," which explored the significant ethical and social issues raised by behavioral genetics in hopes of improving the public discussion of the implications of behavioral genetic discoveries. That project was led conjointly by the Center and the American Association for the Advancement of Science. He has written on the philosophical questions raised by appeals to nature, on genetic engineering and cloning, on the connection between fatherhood and a genetic relationship between man and child, and on the implications of behavioral genetics for the Western conception of the self.

Working closely with Kaebnick will be Erik Parens, Daniel Callahan, and Thomas H. Murray. Erik Parens, a Senior Research Scholar at the Center, has directed two projects on which the current project builds—"On the Prospect of Technologies Aimed at the Enhancement of Human Capacities" and "Surgically Shaping Children." Since arriving at The Hastings Center in 1992, he has published widely on a variety of topics, from pluralism and the delivery of health care services to embryonic stem cell research and the prospect of creating inheritable genetic modifications. His current primary interest is in exploring the meaning of using new technologies to shape ourselves and our children. He has served as a consultant to governmental and non-

governmental bodies, from the National Bioethics Advisory Commission to the American Association for the Advancement of Science.

Daniel Callahan is the co-founder of The Hastings Center and was its Director and President from 1969 to 1996. He now directs its International Programs and is a Senior Fellow at the Harvard Medical School. He is an elected member of the Institute of Medicine, National Academy of Sciences; a former member of the Director's Advisory Committee, Centers for Disease Control, and of the Advisory Council, Office of Scientific Integrity, U.S. Department of Health and Human Services. He won the 1996 Freedom and Scientific Responsibility Award of the American Association for the Advancement of Science. He is the author or editor of thirty-six books, including, most recently, *What Price Better Health: Hazards of the Research Imperative* (University of California Press, 2003).

Much of Thomas Murray's extensive writing has dealt with the ethical and social implications of genetics and questions for the delivery and policy concerning assisted-reproductive technologies. He was one of the founding members of the NIH's Ethical, Legal and Social Issues Working Group, chair of the ELSI Task Force on Genetic Information and Insurance, member and chair of the Social Issues Committee of the American Society of Human Genetics, and member of the National Bioethics Advisory Commission, where he chaired the Genetics Subcommittee from 1995 to 1999. He is co-editor of the *Encyclopedia of Ethical, Legal and Policy Issues in Biotechnology* (John Wiley & Sons, Inc., 2000) and author of *The Worth of a Child* (University of California Press, 1996), in which he explores the nature of parenthood and responsibilities toward children. He is President of The Hastings Center.

The outside participants in this project bring diverse perspectives and backgrounds. J. Baird Callicott is internationally prominent for his careful philosophical defense of the intrinsic value of nature, as found in a long series of articles and books, including the 1989 *In Defense of the Land Ethic* and the 1999 *Beyond the Land Ethic*. Cynthia Cohen, Senior Research Fellow at Georgetown University's Kennedy Institute of Ethics and former Executive Director of the

National Advisory Board on Ethics in Reproduction, has written widely in medical ethics; among the books she has authored or edited are *Wrestling with the Future: Our Genes and Our Choices*; *New Ways of Making Babies*; and *A Christian Response to the New Genetics*. John Cronin is director of the Pace Academy for the Environment at Pace University, co-founder of the Water Keeper Alliance, and on the founding staff of New York State's proposed Rivers and Estuaries Center on the Hudson, a global institute for environmental research and education. Carl Elliott is a philosopher interested in the use of biotechnology for human enhancement, and author recently of the widely acclaimed *Better than Well: American Medicine Meets the American Dream*. William Galston, director of the Institute for Philosophy and Public Policy at the University of Maryland, is a political theorist who both studies and participates in American politics and domestic policy. Eric T. Juengst is a prominent philosopher of medicine interested in, among other topics, human genetics and concepts of health and disease. He is a member of the Ethical, Legal, and Social Implications Research Advisors subcommittee of the National Advisory Council on Human Genome Research, and a past member of the National Institutes of Health's Recombinant DNA Advisory Committee. He is currently directing an NIH-funded project on the ethical issues raised by technologies to extend the human lifespan. Bryan Norton is a leading critic of claims about the intrinsic value of nature; his books include *Why Preserve Natural Variety?* and *Toward Unity among Environmentalists*. Larry L. Rasmussen is Reinhold Niebuhr Professor of Social Ethics at Union Theological Seminary and the author of *Earth Community*, *Earth Ethics*, an extended exploration and meditation upon the relationship between environmental ethics, religious experience, and environmental activism. Mark Sagoff, who has written about the varying conceptions of nature employed in debates about the environment and agricultural biotechnology, is Pew Scholar in Conservation and the Environment at the University of Maryland and President of the International Society of Environmental Ethics, and author of *The Economy of the Earth: Philosophy, Law, and the Environment*. Nicholas A. Robinson is a leading figure nationally and internationally in environmental law; he is currently Chair of the

Commission on Environmental Law of the International Union for the Conservation of Nature and Natural Resources (IUCN). Michael Sandel, one of the nation's best-known political theorists, serves on the President's Council on Bioethics; among his many publications is *Democracy's Discontent: America in Search of a Public Philosophy*. Bonnie Steinbock has written widely in medical ethics; her books include *Life Before Birth: The Moral and Legal Status of Embryos and Fetuses* and (as editor) *Legal and Ethical Issues in Human Reproduction*. David T. Wasserman, a lawyer and psychologist at Maryland's Institute for Philosophy and Public Policy, studies biotechnology and disability policy and the rationales behind preservation of human environments and cultures; he is principal investigator on the NIH-funded project "Genetic Testing, Disabilities, and the Quality of Life" and a co-principal investigator on the NIH-funded "Concepts of Nature, Biotechnology, and the Human Genome."

IV. Method

The signature Hastings Center methodology involves bringing together, for a series of meetings, a multidisciplinary project group with expertise and experience in the area under study. For the project proposed here, the Center will convene a project group of individuals with expertise or experience in philosophy and religion (especially on the philosophical and social questions of medical biotechnology and environmentalism), political science, and public policy (especially as concerns medical biotechnology and environmental policy). Each member of the project group will make one formal presentation and will contribute an essay to our final collection based on that presentation. Those presentations, followed by lengthy discussions, will anchor the meetings. Each of the three meetings will consist of approximately nine sessions, each one and a half hours long, based on the presentation-discussion format (the following section sets out a tentative plan).

V. Final Products and Dissemination

The outcomes for the project will be:

- A commercially published, edited volume of papers emerging from the presentations given at project meetings. We will ensure that the papers are high quality scholarship yet written so as to be accessible to a wide audience and suitable for wide classroom use.
- A scholarly project report on the issues surrounding use of appeals to nature for public policy-making, setting out the fundamental issues as developed by project participants and offering any general recommendations that emerge from the group's work. The report will be published in the *Hastings Center Report* (if it passes the muster of peer review) and posted in the Center's web site. This method of dissemination has proven highly successful for Center projects; it simultaneously ensures the report is available to scholarly audiences, with full citation information and searchability by means of scholarly indexes, and is widely distributed to nonscholars.
- An introductory overview of the issues concerning appeals to nature, disseminated to policymakers, media, environmental organizations, and others interested in medical or agricultural biotechnology or environmental preservation. The overview will be an abbreviated and more accessible version of the scholarly report. It will also call attention to the project's other products.
- Resources posted on The Hastings Center's web site and made available to the general public. The resources will include background readings, bibliographies, links, the introductory overview and scholarly report, and other materials.

We also anticipate communicating the results of our work at conferences, specialty societies, and other public forums. Further, the work will generate and influence writings, presentations, and other work for all of the participants invited to the project.

VI. Work Plan

November 2005: First Research Meeting: The Meaning of “Nature”

Presentations:

- *The Concept of “Nature”: Traditions and Expectations* Cynthia Cohen
- *The Concept of “Nature”: Contemporary Environmentalist Work* John Cronin
- *A Skeptical Assessment of “Human Nature” in Medical Biotechnology* Eric Juengst
- *A Skeptical View of the Idea of “Nature” in Environmentalism and Agricultural Biotechnology* Mark Sagoff
- *Nature and Culture: “Human Nature” and Human Identity* Carl Elliott

November 2005: Background readings and selected other resources developed for The Hastings Center web site (to be updated, expanded, and refined continuously throughout the project)

May 2006: Meeting 2: The Value of Nature

Presentations:

- *Moral Judgments and Nature: Deriving an Ought from an Is* Daniel Callahan
- *Morality without Foundations: A Defense of the Intrinsic Value of Nature* Gregory E. Kaebnick
- *Moral Sentiments: A Defense of the Intrinsic Value of Nature* J. Baird Callicott
- *Human Nature and the Richness of Experience: Why We Want Nature* David Wasserman
- *A Criticism of Appeals to Nature in Medical Ethics: Why “the Natural” Cannot Have Intrinsic Value* Bonnie Steinbock
- *A Criticism of Appeals to Nature in Environmentalism: Other Ways of Valuing Nature* Bryan Norton

November 2006: Meeting 3: The Use of “Nature” in Argument and Policy

Presentations:

- *The Argument from Precedent: Do Counterexamples Undermine Appeals to Nature?* Erik Parens
- *Environmental Sentiment, Religious Feeling, and the Implications for Public Policy* Larry L. Rasmussen
- *“Nature” and Environmental Law: National and International Dimensions* Nicholas Robinson
- *“Nature” and Human Biotechnology: On the Prospects for Policy* Michael Sandel
- *Appeals to Nature in a Morally Diverse Culture* William Galston

January 2006: Completion of final drafts of presentations for the volume of essays.

February 2006: Project report submitted to the *Hastings Center Report*. Introductory overview of issues completed, placed on web site, and distributed to selected audiences.

July 2006: The book is submitted for publication.