The Policy Turn in Environmental Philosophy

Robert Frodeman*

A policy turn in environmental philosophy means a shift from philosophers writing philosophy essays for other philosophers to doing interdisciplinary research and working on projects with public agencies, policy makers, and the private sector. Despite some steps in this direction, a policy turn remains largely unrealized within the community of environmental philosophers. Completing this shift can contribute to better decision making, help discover new areas for philosophic investigation at the intersection of philosophy and policy, and identify new employment prospects for philosophy graduates.

I

One of the old chestnuts of philosophy concerns what counts as "first philosophy"—which domain of philosophy is the proper place for thinking to begin. Philosophers have at various times claimed that ethics, or epistemology, or metaphysics, or in Nietzsche's case, aesthetics[1] should mark the origin of thinking. In this essay I revisit this question of philosophic beginnings in order to suggest that environmental philosophy today should not begin in philosophy at all—at least, not exclusively—but should grow out of the work of other spheres of life and thought.

A policy turn in environmental philosophy means a shift from philosophers writing philosophy essays for other philosophers to philosophers doing interdisciplinary research and working on projects with public agencies, policy makers, and the private sector. The standard approach to environmental issues today on the part of society is to look to science (or economics, or libertarian populism) to resolve our environmental debates. Ethical and philosophic concerns, even when present, are seldom given thorough consideration by those who make decisions. The standard approach to environmental issues today on

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* Department of Philosophy and Religion Studies, University of North Texas, P.O. Box 310920, Denton, TX 76203-0920. Frodeman is the author of *Geo-Logic: Breaking Ground between Philosophy and the Earth Sciences* (Albany: State University of New York, 2003) and editor with Bruce V. Folz of *Rethinking Nature: Essays in Environmental Philosophy* (Bloomington: Indiana University Press, 2004, and editor of *Earth Matters: The Earth Sciences, Philosophy, and the Claims of Community* (Upper Saddle River, N.J.: Prentice Hall, 2000). The author thanks Adam Briggle, Carl Mitcham, Roger Pielke, Jr., and two anonymous reviewers, Scott Lehmann and Peter Miller, for their helpful criticism of earlier versions of this essay.

[1] "The existence of the world is justified only as an aesthetic phenomenon." Friedrich Nietzsche, *The Birth of Tragedy*, Walter Kaufmann, trans. (New York, Vintage Books, 1967), Preface: An Attempt at Self-Criticism. Also available at http://www.mala.bc.ca/~johnstoi/Nietzsche/tragedy_all.htm.

the part of philosophers is to focus on theoretical questions (e.g., strong vs. weak anthropocentrism, questions surrounding intrinsic value), with a reference to a specific case or example. A policy turn in environmental philosophy highlights a third approach, where philosophers begin from specific environmental problematics as defined by those outside of academia, and from the growing sense among policy makers—within public science agencies and other governmental organizations—that society's standard method for addressing environmental problems is inadequate.

Despite some steps in this direction, a policy turn remains largely unrealized within the community of environmental philosophers. This failure, I believe, represents a missed philosophic, cultural, and economic opportunity. Scientists working at or supported by agencies such as the National Science Foundation, the National Aeronautics and Space Administration, and the National Center for Atmospheric Research are funded because their work is thought to contribute to the public good. Such agencies live at the boundary between science and politics; not only must their research be of the highest quality, it must also be relevant to decision makers and the public. The conundrum these agencies face is that relevance is a cultural or philosophical term, heavily laden with values, rather than a scientific one. From thinking that science is *ipso facto* relevant, these agencies have discovered that an additional step is necessary to make science useful to society.

Similarly, decision makers at organizations such as the Tennessee Valley Authority and the Denver Water Board struggle with the challenge of integrating scientific research with specific political, economic, social, and ethical concerns. A policy turn within environmental philosophy can offer help to both of these audiences, contributing to better decision making, identifying new areas for philosophic investigation at the intersection of philosophy and policy, and, one hopes, new employment prospects for philosophy graduates.

There are, then, two complementary points I want to make here. The first concerns rethinking and expanding what counts as environmental philosophy. The second emphasizes the need to develop a philosophy of policy, or a philosophy of science policy, that considers more deeply the ways that information, and more specifically science, relates to societal needs and decision making.[2]

II

It is possible to point to a number of historical precedents for a policy turn within philosophy. First and most famous was Socrates' habit of questioning people in the marketplace of Athens, allowing the conversation to progress

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[2] Robert Frodeman and Carl Mitcham, eds., Special Issue, "Toward a Philosophy of Science Policy," *Philosophy Today* 48, no. 5 (2005).

from the everyday issues facing judges and poets to fundamental questions about the nature of justice or beauty. Much later, modern philosophy was launched by Descartes in the *Discourse on the Method,* written in the vernacular in order to reach the rising merchant class of seventeenth-century France. In the early ninteenth-century in *The Phenomenology of Spirit,* Hegel—admittedly, not the most accessible of philosophers—argued that philosophy needed to provide people with a ladder to move from the perspectives of common sense to a proper understanding of our situation.[3] In the twentieth century, existentialism and phenomenology emphasized that philosophy must begin with careful reflection upon our lived experience of the world.

Although in all of these cases philosophy firmly begins in the realm of everyday experience, claiming to find a "policy turn" in this work is at least slightly anachronistic. Granted, in earlier times philosophers (e.g., Machiavelli, Leibniz) regularly worked outside of academia. With *The Prince*, Machiavelli created what can be interpreted as a philosophy of policy. Fundamentally, however, a policy turn for philosophy had to wait for the nineteenth- and twentieth-century development of the bureaucratic state. Governments and other institutions (such as the Catholic Church) have always had policies, in the sense of a rational set of procedures to achieve an end. However, it wasn't until the development of the immense bureaucracies of the twentieth century, with their social security programs, military-industrial complexes, and the massive public funding of public science, that the subject became arcane enough to spawn its own disciplinary and institutional apparatus of journals, schools of public policy, and professional associations.

During the development of policy studies in the twentieth-century, philosophy has remained on the sidelines—at least overtly. Of course, the nascent discipline had to make certain assumptions in order to get things rolling. One never gets away from philosophy: every intellectual endeavor is built upon basic sets of beliefs about the nature of rationality, the realm of freedom, the compass of the self, and the limits that constitute ethics. The policy movement—which may be dated from Lerner and Lasswell's *The Policy Sciences*, published in 1951[4]—took over the dominant philosophic viewpoint of its time: analytic philosophy, which at that time was firmly in the thrall of positivism. It was an outlook that saw facts as strictly separate from values, science as the definitive means for establishing facts, and values as the expression of personal preference. Working from such assumptions, policy analysts could block out

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[3] ". . . the individual has the right to demand that science should at least provide him with a ladder to this standpoint, should show him this standpoint within himself." *Hegel's Phenomenology of Spirit*, trans. A. V. Miller (Oxford: Oxford University Press, 1977), pp. 14–15.

[4] Daniel Lerner and Harold D. Lasswell, eds., *The Policy Sciences: Recent Developments in Scope and Method* (Stanford: Stanford University Press, 1951).

talk about values or ends, or what political philosophy traditionally called the question of the good life. Such questions were deemed irresolvable, and left to the struggles of interest-group politics. Policy analysis focused on procedural questions of diagnosing the factors impeding and identifying the most efficient means for achieving policy goals.

But it is wrong to see policy studies as simply choosing an inadequate philosophical foundation to ground its research. Policy analysts would have found little help if they had turned to continental philosophy, the other main philosophical tradition of twentieth-century Europe, for analytic and continental philosophy shared a notion of expertise that excluded any serious reaching out to other disciplines. Although there is a tradition within Europe of philosophers serving within government (for instance, Sorbonne professor Luc Ferry became France's Minister of Education in 2002), there has been no sustained movement within philosophy that constitutes a policy turn. Even existentialism and phenomenology, insistent that philosophy begins in everyday experience, focused upon personal and subjective events rather than upon our public life.

Martin Heidegger provides us with an interesting exception to this point. In 1951, Heidegger was invited to address the Second Darmstadt conference on the issue of homelessness. Heidegger's address—later published as the essay, "Building Dwelling Thinking"—was written in response to the housing crisis facing postwar Europe.[5] In the aftermath of World War II millions of people lacked adequate housing. Speaking to an audience primarily made up of architects and artists, Heidegger argued that the issue facing Europe was not simply a matter of creating physical structures, but also accounting for the emotional, psychological, and cultural dimensions of home making and community.[6]

Of course, Heidegger's diction is not well suited for officials of the Department of Housing and Urban Development; nor are his reflections on dams and rivers likely to be studied by water managers in the West. But this fact only highlights one of the tasks of the policy turn in environmental philosophy—the need to identify ways to translate philosophic insights into usable ideas for scientists, policy makers, and communities. Rather than a simple and straightforward matter of application, contextualizing philosophic work so that it is relevant to a particular situation is a rich area for future philosophic research. "Fitting" Aristotle's notion of *phronesis* or Eliade's description of the sacred[7] to a particular context involves a dialectical back and forth that casts new light

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[5] Martin Heidegger, "Building Dwelling Thinking," in Martin Heidegger, *Poetry, Language, Thought,* trans. Albert Hofstadter (New York: HarperCollins, 1971).

[6] The failure to consider these perspectives resulted in public housing projects such as St. Louis's Pruitt-Igoe, which was celebrated as an architectural innovation when completed in 1956. Within a few years the housing complex was suffering from vandalism and crime. In 1972, after spending more than $5 million to cure the problems at Pruitt-Igoe, the St. Louis Housing Authority demolished the series of high-rise buildings.

[7] Aristotle, *Nicomachean Ethics,* bk. 6; Mircea Eliade, *The Sacred and the Profane,* trans. Willard R. Trask (New York: Harcourt, Brace, 1959).

on classic philosophical problems as well as the particularities of an environmental issue.

Historical precedents of the relationship between philosophy and power also have a dark side. Plato's experience in Syracuse advising the tyrant Dionysus ended disastrously (by some accounts, with Plato being sold into slavery). The results of Aristotle's moral education of Alexander the Great clearly left something to be desired. Heidegger's own flirtation (or worse, depending on which account you accept) with Nazism is a contemporary tale of the dangers of philosophical hubris. The approach suggested here, however, does not call for rule by either philosopher-kings or as counselors to the president. The inclusion of philosophic perspectives operates best at the middle or project level, working through the implications of a particular controversy or challenge with scientists or policy makers. Rather than philosopher-kings, our problems today require something closer to philosopher-bureaucrats.

Over the last ten or fifteen years environmental ethicists have given increasing attention to the policy element of environmental problems. In *Toward Unity among Environmentalists* in 1991, Bryan Norton advocated a policy-oriented approach, proposing that we "think about environmentalism as a force in public policy first and to examine philosophical questions in passing."[8] Norton later distinguished between applied and practical philosophy—the former applies theoretical principles to problems, while the latter begins with real cases and seeks to insinuate philosophic insights into these cases in a spirit of amelioration and compromise. Norton offered practical philosophy as a way to end the isolation of environmental ethics from policy making.[9] Similarly, Andrew Light and Eric Katz in *Environmental Pragmatism* called for a pluralist and non-reductionist approach to environmental problems that would "identify practical strategies for bridging gaps between environmental theorists, policy analysts, activists, and the public."[10] Likewise, in 1994 Donald VanDeVeer and Christine Pierce published *The Environmental Ethics and Policy Book: Philosophy, Ecology, Economics*, with a second edition in 1997 and a third in 2003.[11]

This literature does highlight the need to take better account of policy concerns.[12] Its overall weakness, however, turns on its inability to carry through on

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[8] Norton, Bryan G., *Toward Unity among Environmentalists* (New York: Oxford University Press, 1991).

[9] Bryan G. Norton and Eugene C. Hargrove, "Where Do We Go from Here?" in *Ethics and Environmental Policy: Theory Meets Practice,* ed. Frederick Ferré and Peter Hartel (Athens: University of Georgia Press, 1994), pp. 235–52.

[10] Andrew Light and Eric Katz, eds., *Environmental Pragmatism* (New York: Routledge, 1996), p. 5.

[11] Donald VanDeVeer and Christine Pierce, eds., *The Environmental Ethics and Policy Book: Philosophy, Ecology, Economics*, 3rd ed. (Belmont, Calif.: Wadsworth, 2003).

[12] See also Avner de-Shalit, *The Environment: Between Theory and Practice* (New York: Oxford University Press, 2000); *Moral and Political Reasoning in Environmental Practice*, ed.

its promise to offer specific insights and strategies within the context of live controversies. Thus, despite the overall goal of the volume, the essays in *Environmental Pragmatism* in the main consist of applied philosophy—general, theoretical, top-down accounts of environmental questions. Consider as well the eight divisions of VanDeVeer and Pierce's *The Environmental Ethics and Policy Book*:

I. An Introduction to Moral Theory (e.g., rights theory, utilitarianism, and Kant)
II. Religious and Cultural Perspectives (essays by Lynn White, Jr. and others)
III. Other Animals (e.g., Peter Singer, Tom Regan)
IV. Constructing an Environmental Ethic (e.g., Taylor, Leopold, Callicott)
IV. Economics, Ethics, and Ecology (e.g., cost-benefit analyses and essays by Garrett Hardin, and John Locke)
VI. Environmental Problems and Policies (e.g., Carson's *Silent Spring*)
VII. Varieties of Activism (e.g., Foreman's "Strategic Monkey-wrenching")
VIII. Learning and Research Tools (glossary, web resources, and bibliography)

There are a few articles such as Knize's "The Mismanagement of the National Forests" and Norton's "Forest Service Policy" that draw out the ethical and philosophic dimensions of particular challenges facing government and policy makers, but the overall thrust of this edited volume is to take a high theoretical approach to the question of how to integrate environmental philosophy and policy. Thus, the four articles in the "Biodiversity" section (certainly an issue where policy makers can use philosophic help) consist of

"The Diversity of Life"—E. O. Wilson
"What is a Species"—Stephen Jay Gould
"Why do Species Matter?"—Lilly-Marlene Russow
"Why Species Matter"—Holmes Rolston, III

There are no case studies of particular problems—of, for instance, the challenges Australia faces through the importation of the European fox, the rabbit,

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Andrew Light and Avner de-Shalit (Cambridge: MIT Press, 2003). Daniel A. Farber, *Eco-Pragmatism: Making Sensible Environmental Decisions in an Uncertain World* (Chicago: University of Chicago Press, 1999); Mark Sagoff, *Price, Principle, and the Environment* (Cambridge: Cambridge University Press, 2004). For additional cites, see http://www.cep.unt.edu/anthol.html.

and the house mouse.[13] Although no one disputes the need for general philosophical accounts of environmental issues, the overall thrust of the volume firmly lies within applied rather than practical environmental ethics.

A fully developed policy turn also means something quite distinct from calling for more attention to be paid to the contributions that political philosophy can make to policy decisions. Topics such as the nature of justice, the relation between the individual and society, and the tension between democracy and expertise (scientific or otherwise) are as relevant to our environmental concerns as are insights drawn from epistemology, ethics, metaphysics, and aesthetics. However, political philosophy typically operates on the same level of abstraction as these other areas of philosophy. Beginning with particular policy questions surrounding ecological restoration, endangered species, or climate change means coming to grips with the intricate mix of science, economics, law, and populism that define our lived reality. The environmental philosopher needs to have a nuanced understanding of philosophy; but this training will mostly lie in the background, informing a conversation, rather than being explicitly cited. Such "topical" thinking (*topos*, from the Greek, means "place") means more than simply reflecting upon a particular example or case study. It also requires an active, ongoing engagement with both scientists and policy makers actually involved in the decision making process. Philosophy becomes a type of fieldwork or practice engaged with the world rather than only a matter of discourse, making its home in the laboratory and the board room as well as in the classroom and scholar's study.[14]

III

Abroad in society, it is difficult to argue the case for philosophic or humanistic perspectives on their own terms. The pull of modernity's twin assumptions of scientism and *Homo economicus* is simply too strong. But such concerns can gain a hearing when the contradictions within society's standard approach to environmental issues develop to the point where scientists and policy makers themselves are driven to questions that are fundamentally philosophic in nature. This approach to philosophy has a distinguished philosophic pedigree. Hegel shows us the way here, in that in his dialectical logic it no longer mattered *where* one began thinking. Begin anywhere, and simply follow the internal logic of the conversation until the contradictions inherent to a given point of view force thinking to challenge its own background assumptions.

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[13] See, for instance, the case studies of the Australian Commonwealth Scientific and Industrial Research Organization, at http://www.csiro.au/.

[14] My own efforts at topical thinking include *Geo-Logic: Breaking Ground between Philosophy and the Earth Sciences* (Albany: State University of New York Press, 2003).

A policy turn for environmental philosophy is timely because of the growing sense within scientific and policy circles that the standard approach to environmental problems is inadequate. Consider the following example. In the face of growing concerns about our effects upon the climate, the federal government created the U.S. Global Change Research Program in 1989.[15] This program was justified in terms of the role that science can play in addressing the policy implications surrounding climate change:

> The U.S. Global Change Research Program was conceived and developed to be policy-relevant and, hence, to support the needs of the United States and other nations by addressing significant uncertainties in knowledge concerning natural and human-induced changes in the Earth's environment. . . . The USGCRP is designed to produce a predictive understanding of the Earth system to support national and international policy making activities across a broad spectrum of environmental issues.[16]

Today, however, questions are being raised about the effectiveness of the USGCRP. Since 1990 the U.S. government has spent more than $25 billion on climate change research. Across this same span, the range of predicted temperatures for the year 2100 has *increased*—from 1.4 to 5.4 degrees, to 1.4 to 5.8 degrees centigrade (2.5 to 10.4 degrees Fahrenheit).

Make no mistake: over this same period climate scientists have learned an enormous amount about the climate system. But much of what they have learned—how to model vegetation, the nature of the ocean-atmosphere interface, and the effects of cloud cover on the Earth's albedo—has increased their appreciation of the complexity of the climate system. The point is not that overall uncertainty about future climate trends has increased; in fact, scientific consensus has grown that the climate is warming, and that human activities are responsible. It is rather that the complexity of the system is such that any number of future outcomes are possible, globally and locally, ranging from the inconvenient to the catastrophic, within a time horizon from the current decade to hundreds of years from now.

Granted, global climate change would not even be an issue without science. Humans experience weather, not climate; we need science to make sense of events beyond human perceptions localized in space and time. But although science has been necessary to identify the *possibility* of a problem, it will never be able to certify what will happen. It can't do so for a number of reasons. First, the physics of the climate system are complex and nonlinear: either globally or

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[15] Available at http://www.usgcrp.gov/usgcrp/about/default.htm.

[16] Committee on Earth and Environmental Sciences, *Our Changing Planet: The FY 1994 U.S. Global Change Research Program* (Washington, D.C.: National Science Foundation, 1993), p. 5; quoted in Daniel Sarewitz, "Science and Environmental Policy: An Excess of Objectivity," in Frodeman, *Earth Matters,* p. 81.

locally, the climate may remain stable in the face of the addition of greenhouse gases until a tipping point is reached, when the system enters an entirely new state. Second, scientific predictions are certain only within closed systems. While the global climate models used to understand and predict the climate system are closed, the climate system itself is an open system always liable to surprise. Third, the data that goes into a climate model are deeply interpretive in nature, allowing for multiple scenarios of the future—a fact that contributes to the current range of predictions. Finally, and most crucially, climate models are fundamentally dependent upon a variety of sociological "inputs"—future population growth, technological innovation, the evolution of environmental sensibilities, and patterns of globalization. The future state of such factors is impossible to predict, rendering the predictive capacity of the climate models that are dependant upon them essentially zero.

The proper use of climate models is therefore heuristic rather than predictive, offering salutary advice rather than precise accounts of future states of affairs. Thus, not only has climate science not resolved our political debates; in terms of policy, the work of climate models may be essentially complete. In the words of Mojib Latif, Director of Germany's Max Planck Institute for Meteorology: "We will of course improve our models, but I don't really see the biggest or most important results changing in the next 10 years. In terms of policy, the models have done their job."[17]

Nonetheless, research continues at an annual clip of $1.8 billion. Political support for the USGCRP exemplifies the prevalence within society of a kind of policy fundamentalism—the belief that science is uniquely qualified to address societal questions, environmental or otherwise. The hope—rooted in Cartesian dreams of mastery—has been that the certainties of scientific prediction can lift us out of the subjectivity of partisan politics. This hope has made the question of policy formulation relatively straightforward: give more money to scientists, and they will tell us what must be done. Of course, this is an arrangement that has served the interests of both scientists and politicians: scientists get more money to do what they like to do, while politicians can put off making controversial decisions until science provides them with the correct answer.[18]

However, it is becoming clear to all involved that the relationship between science and decision making is not nearly so unambiguous.[19] The belief that

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[17] Andrew Revkin, "The Devil Is in the Details" *The New York Times,* 3 July 2001. Available at http://www4.nas.edu/news.nsf/isbn/s10062003f?OpenDocument.

[18] This argument has been made at length by Daniel Sarewitz, *Frontiers of Illusion: Science, Technology, and the Ideology of Progress* (Philadelphia: Temple University Press, 1995).

[19] There is a growing literature that critiques the notion of a linear relationship between science and politics. See, for instance, Pielke, Jr., R. A., and Radford Byerly, Jr., "Beyond Basic and Applied," *Physics Today*, 51, no. 2 (1988): 42–46; http://sciencepolicy.colorado.edu/admin/publication_files/resource-166-1998.12.pdf.

political questions can be turned into scientific ones by having scientists arrive at the "right" answer is showing signs of strain. Public science agencies, such as NASA and the National Center for Atmospheric Research, and the U.S. Congress, are beginning to raise questions such as:

- Why has this massive investment in climate science borne such meager fruit in terms of decision making?
- What is the relation between scientific facts and the actual making of decisions?
- What ways other than science might we identify for making progress on the climate change debate?

We find, then, that the policy turn involves not only the turn of (environmental) philosophy toward policy questions. It also involves scientists and policy makers turning toward concerns that are inescapably philosophic in nature. For the questions being raised by the challenge of global climate change cannot be addressed by the discovery of facts and the straightforward drawing of the policy implications of these facts. The factual questions listed above turn out to be deeply hermeneutic in nature. Moreover, questions of future climate change are as much a matter of meanings and values as of facts, in that the debate will be about what kind of world we want to live in, both naturally and socially. The future, after all, is not something that simply happens to us; being human means that we exercise a significant degree of influence over the future through the choices we make. Rather than basing our actions primarily on predictions of the future, as if the future is something outside of us and beyond our control, climate change challenges us to engage in an explicit debate about the kind of future we want to have. What obligations do rich countries have to poor countries to supplement the costs of adaptation—especially since wealthy countries are responsible for most the anthropocentric CO_2 to date? How do we parse the relative responsibilities of countries for past versus future emissions? Clearly, we need to come up with improved ways to conduct these debates.

Doing so requires that we place politics rather than science at the center of policy making—politics in the sense of a lively and reasoned debate over values. But it is here that we suffer most from the paucity of philosophic input into policy debates. Policy research today embodies positivist and proceduralist biases, in that it seeks to rationalize and make more efficient the *expression* of our values, while abstaining from the project of making these values themselves more reasonable. Harold Lasswell, the founder of one of the most prominent schools of policy studies, states:

> Politics is the process by which the irrational bases of society are brought out into the open. . . . [It] is the transition between one unchallenged consensus and the

> next. It begins in conflict and ends in a solution. But the solution is not the "rationally best" solution, but the emotionally satisfactory one.[20]

Lasswell expresses a common assumption concerning values: since questions about ends are not subject to rational debate (only *science* is rational), personal preference becomes the only means for judging values. Politics can then only be about the pursuit of personal advantage as it is defined by the parties involved, subject to compromise in the attempt to gain the best deal possible.

What is strangest about these claims—typical as they are—is how they go against our everyday experience. It is as if we have not seen instances where people are truly concerned with questions of justice and fairness, or cases where beauty or self-sacrifice or a sense of the sacred trumps self-interest. (Consider, for instance, the motivations that find expression in the 1964 Wilderness Act.) But it is clear that political debates regularly involve much more than the simple adjudication of self-interest. Participants in ethical and political discussions quite often embody "the desire for reasonable agreement, not the pursuit of mutual advantage."[21] People give reasons for their values in order to see if these values can find justification in the mind of another. A value that cannot find justification in the eyes of another eventually loses its justification for ourselves. Humans have a fundamental need to feel justified in their beliefs and behavior.

Certainly, conflict over values is and will remain an inescapable fact of life. It is only within deductive systems where everyone agrees to a set of initial premises that it is possible to avoid disagreement. But in spite of the increasing pluralism of our culture, the high water mark for seeing values as purely subjective personal preferences may have passed. The work of philosophers such as Scanlon and Habermas strikes a neo-Aristotelian chord where values are treated as subject to reasonable debate and justification.[22]

The need for a policy turn within philosophy, and a philosophic turn on the part of science and policy, is not limited to the question of climate change, or even to environmental questions in general. Consider an entirely different example—the ongoing biomedical revolution that includes stem cell research, cloning, genetic enhancement, and aging. The U.S. National Institutes of Health, currently funded at 29 billion dollars a year, occupy a liminal space between science and politics similar to that of NASA and the NSF. But here the challenge is not the lack of clear scientific input into policy debates, but rather

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[20] Harold D. Lasswell, *Psychopathology and Politics* (Chicago: University of Chicago Press, 1977), pp. 184–85; cited in Sarewitz, "Science and Environmental Policy," p. 84.

[21] Thomas Scanlon, "Contracturalism and Utilitarianism," in *Utilitarianism and Beyond*, ed. Amartya Sen and Bernard Williams (Cambridge: Cambridge University Press, 1982), p. 115.

[22] Jürgen Habermas, *The Theory of Communicative Action*, trans. Thomas McCarthy, 2 vols. (Boston: Beacon Press, 1984–1987).

that recent and anticipated discoveries within the biological sciences raise issues that are deeply philosophic in nature. For surely there will be vigorous debate on the moral, metaphysical, and theological appropriateness of designed children or the massive extension of human life expectancy. The ongoing processes of biomedical research have resulted in the morphing of purely scientific concerns into policy questions that are fundamentally philosophic in nature.[23]

A common space is developing where science and policy intersect with fundamental reflections on the nature of knowledge and the inescapability of ethical, aesthetic, metaphysical, and theological questions. It is a space that invites the development of a "philosophy of policy" (environmental or otherwise) that reflects upon the role of knowledge in decision making processes, the rationality of values, and the integration of values with scientific knowledge for improved decision making.[24]

IV

Nonetheless, a policy turn within environmental philosophy faces both institutional and philosophical barriers to its development. Ironically, the greatest resistance may come from the side of philosophy—that is, the philosophic commitments of philosophers and other academics—rather than from public science agencies or other governmental institutions.

Agencies such as the National Science Foundation have realized that increased attention must be paid to the societal impact of scientific research. This point has been codified by the creation (in 1997) of the NSF's second review criteria, which states that all funding requests must address—in addition to the first criterion of intellectual merit—the broader impact of the proposed research upon society.[25] The implementation of the second criterion has caused some consternation among scientists, who often feel at a loss trying to account for the social, economic, or political aspects of their work. Motivated by a similar set of concerns, the Human Genome Project devoted three to five percent of its funding to research on the ethical, legal, and social implications (ELSI) of genomic research.[26] The development of ELSI programs is also

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[23] See *Beyond Therapy: Biotechnology and the Pursuit of Happiness* (Washington, D.C.: President's Council on Bioethics, 2003). Available at http://www.bioethics.gov/reports/beyondtherapy/.

[24] Cf. http://humanitiespolicy.unt.edu.

[25] For an NSF statement on the second criteria, see http://www.nsf.gov/pubs/1999/nsf99172/nsf99172.htm. For a philosophical analysis of the second criterion, see J. Britt Holbrook, "Assessing the Science-Society Relation: The Case of the U.S. National Science Foundation's Second Merit Review Criterion," *Technology in Society,* forthcoming.

[26] Avaiable at http://www.ornl.gov/sci/techresources/Human_Genome/elsi/elsi.shtml.

being contemplated at the Department of Energy and has been created within the burgeoning field of nanotechnology research.

Although there is some resistance on the part of scientists to considering the societal implications of their research, there is also a general recognition that today such concerns must be given a hearing. The situation is more problematic in philosophy. Research into such topics is not viewed as "real" philosophy. The field of applied ethics—including engineering ethics, biomedical ethics, and environmental ethics—has long been treated as a stepchild, and there are few if any examples of philosophy departments that have truly made a policy turn, placing it at the core of their research and curriculum.[27]

The ease with which the phrase "real philosophy" is bandied about can be quite remarkable. There is little sense that what constitutes the domain of philosophic research must itself be defended on philosophic grounds. Nor is it acknowledged that the sphere of philosophic work has itself changed over time in response to cultural exigencies. The discipline of philosophy has thus tacitly applied to itself the same internal-external distinction that long characterized the philosophy of science, which set aside the social or political aspects of science as extraneous to the heart of philosophic investigation.[28]

The reasons behind this view are both intellectual and institutional in nature. A tacit commitment to what might be called the "analytic fallacy" lurks within philosophy. This term here does not refer to a distinction between analytic and continental philosophy; for all their differences, both styles of philosophy are one in their embrace of disciplinarity, specialization, and expertise. The analytic fallacy is an assumption shared not only across the field of philosophy, but also by all the disciplines of the academy. Indeed, it is the assumption of analyticity that both gives birth to and sustains the disciplinary structure that orders the work of the modern university. But it is within philosophy and the humanities that this presumption weighs most heavily.

The historical roots of this view are based in two points, one intellectual, the other institutional in nature. Its intellectual origins lie in Descartes' *Discourse on the Method*; its institutional sources in the development of the modern research university. In the *Discourse* Descartes offers an account of the universal method of analysis: breaking things down into their constituent parts until we get to the indivisibly small pieces of reality that Newton called "simples" and the ancient Greeks *a-temos*, that which cannot be cut (thus

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[27] Partial exceptions to this absence include the Institute for Philosophy and Public Policy at the University of Maryland (part of the School of Public Affairs), the Social Philosophy and Policy Center at Bowling Green State University, and the Institute for Environment, Philosophy and Public Policy at Lancaster University.

[28] For a reflection on philosophy's abdication of its social responsibilities, see John McCumber, *Time in the Ditch: American Philosophy and the McCarthy Era* (Evanston, Ill.: Northwestern University Press, 2001).

"atom"). Once we have made a full accounting of these simples, we can reconstruct our object of analysis, putting the pieces back together in order to gain a complete understanding of the whole.

Granting its many successes—as well as in some sense the inevitable role it must play in thinking—today the questionable aspects of this approach to scholarly research have become quite apparent. First, Descartes' method is anti-organicist, in that it assumes that the world consists of only mechanical wholes. Integrated wholes (for instance, ecosystems, or societies) are reduced to the sum of their parts. This is a philosophy of external relations where it costs nothing to examine a thing in isolation from its larger context. Second, it has become a commonplace to note that Descartes' method offers us foundationalist metaphysics: if we labor long and hard enough we will arrive at a ground that can serve as a firm support for everything that is to follow. But the belief in the existence of something like atoms or irreducibly small pieces of matter as the ground to reality has been overturned by modern physics. There is little evidence to support the claim that if we go deep enough we will come to the bottom of things. The latest incarnation of fundamental particles, neutrinos, quarks, and strings, may once again turn out to be simply the reflection of the current technical limitations of our atom smashers. Rather than simples, going deeper into the nature of things seems to reveal "When we try to pick out anything by itself, we find it hitched to everything else in the Universe."[29]

The irony here is that while philosophers have deconstructed the presumptions of analyticity, they have done so only *philosophically*. In terms of institutional commitments, Descartes' method still reigns supreme within philosophy as well as across the rest of the academy.

The modern research university was the late nineteenth-century invention of educational innovators at institutions such as Johns Hopkins, the University of Chicago, and the University of Michigan. Importing and adapting the model of the Ph.D. from Germany, the key innovation of these schools was the redefinition of the role of the professorate in terms of research and the creation of new knowledge. Until then, American higher education had consisted of colleges whose central purpose was the transmission of a cultural heritage reaching back to the Greeks. It was an important task. Democracy was an innovation and still quite fragile, with the rule of king and clergy still quite recent. An education in history, philosophy, and letters trained men in the skills necessary for preserving a radical social and political experiment.

Post-civil war American society was much more confident and forward looking. Rather than conserving and applying the intellectual legacy of the ancient world, progress was increasingly linked to urbanization, industrialization, scientific discovery, and cultural change. This dynamism had a profound

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[29] John Muir, *My First Summer in the Sierra* (Boston: Houghton Mifflin, 1988), p. 110.

effect upon the goals of higher education, as the analytic method underlying science was applied across the new institutions of knowledge. Teaching, or the transmission of our cultural legacy and its adaptation to new circumstances, came to be seen as the lesser part of the professors' role; research, leading to the creation of new (paradigmatically, scientific) knowledge, came to the fore.[30] Underlying this new imperative was the assumption that the production of knowledge was inherently benign.

The consequences flowing from this redefinition of the institution of knowledge included an increasing emphasis upon disciplinarity and a growing specialization and professionalization across academic fields (including the formation of professional societies such as the American Philosophical Association in 1900). Most portentous was the application of the analytic paradigm to the various fields of the humanities—as an intellectual structure, a work plan, and as a means for managing the tremendous growth in knowledge. The humanities began to lose their traditional role as the repository of the hard-won wisdom, perennial truths, and synoptic views. Philosophers and humanists turned into specialists.

Today, however, the analytic approach to the future research prospects of philosophy is anachronistic, for if philosophy no longer believes in simples, epistemic foundations, external relations, or the strict division between the epistemological and the political, there is no rational basis to its intellectual efforts and academic structures being so fundamentally wedded to the concepts of specialization and depth—nor to the structuring of our undergraduate and graduate philosophy programs, and the judging of the work of our colleagues, in terms of their ability to go narrower and deeper in their examination of a given thinker or topic. By what logic do we hold onto the presumption of specialization, and implicitly, a philosophy of external relations, when specialization and external relations have been shorn of their epistemological *raison d'etre*?

Moreover, the challenge here is not only intellectual in nature. In *The World is Flat* Thomas Friedman describes the powerful global forces that are forcing every industry and institution to demonstrate its role in society.[31] Philosophy's hallowed 2500 year tradition of thought provides a meager defense against those who will claim that philosophy (most of which is publicly funded, after all) contributes little to society.

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[30] See, among a voluminous literature, Caroline Winterer, *The Culture of Classicism: Ancient Greece and Rome in American Intellectual Life, 1780-1910* (Baltimore: Johns Hopkins University Press, 2002); Julie A. Reuben, *The Making of the Modern University: Intellectual Transformation and the Marginalization of Morality* (Chicago: University of Chicago Press, 1996); and Roger Geiger, ed., *The American College in the Nineteenth Century* (Nashville: Vanderbilt University Press, 2000).

[31] Thomas Friedman, *The World is Flat* (New York: Farrer, Straus, and Giroux, 2005).

Questions of knowledge cannot be separated from questions of legitimacy, the *quid jure* of who is entitled to speak on a topic. Society listens to scholars that have been judged competent by their peers. In a knowledge-rich society, knowledge has been divided into smaller and smaller categories to make it easier to judge whether someone is competent on a given subject. Such acts of judgment become more difficult or even impossible when interdisciplinary research extends well beyond a narrow disciplinary domain. This is the riddle facing environmental philosophy that wants to make the policy turn. Insofar as it remains high philosophy, it is liable to be judged irrelevant. But insofar as it begins to reach across disciplines, integrating science and policy concerns with philosophic insights, it is liable to be judged poorly—or seen as not susceptible to being evaluated at all.

But the riddle is no more easily solved on the side of specialization. We can identify two problems with specialization. First, as things are currently constituted, there is no logical end to the quest for expertise. In the case of environmental philosophy, there is always another book discussing the intricacies of intrinsic value, and another counter-argument to consider concerning the precautionary principle. That is, the pursuit of specialization has no epistemological warrant: there is no way to tell when enough is enough. The current standard for what counts as expertise is largely a reflection of political and sociological factors such as whatever the current intellectual fashions happen to be and how much funding a given field is receiving.

Second, we are able to go deeper into a given subject only by passing over examination of the lateral connections between that subject and the rest of the universe of thought and action. What is at play here is the dominance of the metaphorics of the laboratory in disciplines ostensibly quite far from the lab. The epistemology of the laboratory presumes that it is relatively unproblematic to separate a bench experiment from the world at large. Epistemological clarity is made possible by this assumption: conditions and results can be replicated by controlling the materials used and constraining the parameters of the experiment. Even fields quite far from and in some cases quite disdainful of science have depended upon this presumption of external relations in the design of their research. For instance, it is somehow obvious to literary scholars that it is more central to the work of their field to further probe the depths of the *Prelude* than to see how Wordsworth can illuminate the experience of employees of the National Park Service, and through them, the park-visiting public.

The truth is that there is no inescapable beginning or end to thinking, no golden road that leads to scholarly excellence. The idea of competence in knowledge—philosophic or otherwise—has an inescapably sociological as well as an epistemological component. At some point difficult to identify, thinking about Plato's account of eros moves from accurately reflecting his

thought to being implicated in that thought, and thus to a type of co-production where one is developing one's own thinking. It is as if, in our drilling down into the bedrock of knowledge, our drill bit strikes open air—revealing a cavern with a variety of wonders, but with no clear imperative concerning which direction we should head. When this happens, we leave behind the imperative toward greater depth and are free to move in the direction dictated by either personal preference or societal need.[32]

Once we have broken through the ice of faithful commentary, epistemologically we find ourselves at the place described by Nietzsche's Madman:

> Whither are we moving? Away from all suns? Are we not plunging continually? Backward, sideward, forward, in all directions? Is there still any up or down? Are we not straying as through an infinite nothing?[33]

Once we pass beyond a certain level of proficiency—which admittedly, is both a significant achievement that takes serious dedication, as well as being difficult to define—we find that epistemologically speaking there is no up or down to our thinking, no clear direction that we must proceed in. This fact lies at the basis of the quiet crisis facing academia today, in that it has become a Tower of Babel—a thousand articulate voices whose combined effect is white noise. The way out of this predicament is to acknowledge a sociological and political component to our pursuit of knowledge, and ask: for a given situation, what is pertinent knowledge? How deep is deep enough? And, to what degree do we need to reach beyond the confines of our own discipline to dialogue with others? For environmental philosophers, such direction can be found through the guidance provided by the needs of scientists and policy makers.

V

A policy turn in environmental philosophy expands the portfolio of philosophy in two ways. It does so first by complementing the standard type of research with the development of a second strand of philosophic labor. Instead of only researching theoretical questions concerning the environment, philosophers will now also engage in research in how to integrate philosophic insights with the work of scientists, public science agencies, and policy makers. There will always be a central place for the type of philosophical research that now dominates academic philosophy. But this second mode of philosophizing is

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[32] Eugene C. Hargrove, "Philosophical Aspects of Cave Conservation: Its Relationship to the Historical and Philosophical Development of Conservation in America," *Proceedings of the 1976 NSS Annual Convention* (Huntsville, Ala.: National Speleological Society,1976), pp. 17–19.

[33] Friedrich Nietzsche, *The Gay Science*, trans. Walter Kaufmann (New York: Random House, 1974), sec. 125.

just as vital to the philosophic project as traditional philosophical work. Indeed, the two approaches to environmental philosophy (and philosophy *tout court*) complement one another.

Second, developing a topical environmental philosophy raises the possibility of a second career track for undergraduate and graduate students in philosophy. Public agencies such as the National Park Service, the U.S. Forest Service, the National Science Foundation, and the National Aeronautics and Space Administration—not to mention all of the analogous state and regional agencies—face many challenges that are broadly philosophical in nature. With few exceptions these agencies lack people systematically trained in philosophy. Here is another place where a policy-oriented environmental philosophy complements traditional philosophic research: the possibility of working with such agencies will lead to more majors and graduate students in philosophy and humanities departments, creating the possibility of additional academic positions.

This possibility points up the possible synergy between a new research portfolio, expanded career options, and curricular reform. If we are to develop practical strategies for integrating environmental philosophy into policy and culture our students will need hands-on experience in the policy realm. Internships at both the undergraduate and graduate level within both the public and private sectors will help students develop the skillful means necessary for weaving philosophic nuance within policy discussions.[34]

A policy turn within environmental philosophy is not a panacea for the problems facing philosophy, science agencies, or society at large. Nonetheless, by helping to expose tacit presumptions and legitimating conversations about values within the policy sphere, a policy turn increases the possibility that our philosophic labors will bear fruit.

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[34] The Department of Philosophy and Religion Studies at the University of North Texas is lauching such an internship program at its field station in Cape Horn, Chile. See the departmental website at http://www.phil.unt.edu for more details.