MANAGING PLANET EARTH: ADAPTATION AND COSMOLOGY

Curtis A. Pendergraft

> The necessity of adaptation to unforeseen events will always mean that someone is going to be hurt, that someone's expectations will be disappointed or his efforts frustrated. This leads to the demand that the required adjustment be brought about by deliberate guidance, which in practice must mean that authority is to decide who is to be hurt.
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> —F. A. Hayek (1973: 63)

Living organisms, which some would say include human societies, have been adapting or failing to adapt to change, including climatic change, as long as life has existed. The spread of *Homo Sapiens* over the earth is testimony to the species' adaptive capacity. Now, however, human societies and the polities into which they are organized are called upon to adapt to a *threat* of change by cooperating at the global level in proactive measures intended to mitigate or abate climatic change forced by human enhancement of greenhouse gases. With perhaps unconscious hubris, this cooperation is to result in transnational and international regimes aimed at "managing planet earth," or at least "the human use of planet earth" (Clark 1989: 1).[1] One can scarcely imagine a more holistic social engineering project.

The notion of managed change to cope with global climatic change is driven by powerful but probably erroneous notions of overpopulation, scarcity, and equity. The logic is appealing *prima facie*: when there are too many people for available resources, we are obliged to share them equitably and use them in a sustainable manner. From these

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Curtis A. Pendergraft is Director of Economic Development for Thermopolis, Wyoming.

[1]A half-century ago my father, a game warden in Wyoming, taught me that the critical part of "game management" was not managing wildlife, but rather people. This made his job less appealing to him than it would otherwise have been, since he disliked regulating people's behavior.

premises Clark (1989: 1) argues that we must act "as a global species—pooling our knowledge, coordinating our actions and sharing what the planet has to offer." Upon further review, however, the feasibility of the project becomes problematic. Pooling knowledge, coordinating actions, and sharing resources implies the development of an authority with the capacity to cause both collective and individual actors to do what they would not otherwise have done. In other words, power must be allocated to this authority, which, if we are to "act as a global species" rather than as individuals or as discrete groups, must be a global authority. In some sense, then, the call for managed change is a call for the creation of a new, global community. Communities share cultures—members see the world in ways that are harmonious enough to allow them to live together under one set of rules. Creating such a culture and authority at a global scale would require many, probably most, of us to change our notions of who we are, and to what or whom we owe primary allegiance. What is touted is simply a Hobbesian contract writ large: The threat of climatic change is so dire that we must create a new, global social contract that reallocates power and wealth. There is something very wrong with this proposal.

Constructing inter- or supranational regimes capable of global management implies nothing short of a socioeconomic-political war on current structures and institutions, judged unjust and unsustainable by the new managers. If it is true that the first casualty of war is truth (is it true what they say about current structures?), the second is liberty (defined in the classic liberal sense that each individual is free to seek his own self-interest subject to universally applicable rules against illegitimate use of force). We need to consider carefully whether the cure for the hypothesized ill might be worse than the disease (climatic change) itself. On the face of it, since the threat is considered to be anthropogenic, brought on by our own behaviors, and because it may affect some (e.g., Pacific islanders) more than others it seems rational enough to say that humans can and ought to change those behaviors. Indeed, many of the changes called for are labeled "no regrets" policies—changes we ought to make even absent the threat, such as developing sources of energy alternative to fossil fuels or stopping tropical deforestation.

Even granting this characterization of some changes, many other proposed actions remain seriously problematic because they are based on a false view of the sources of social order: the view that society either naturally is or ought to be egalitarian. Unrealistic policy is bad policy, and it is unrealistic to expect fundamental ideational, behavioral, and institutional changes in polities when the rationale for change is based as much on egalitarian political agendas as on

scientific data. When scientific data is used "to support a course of action primarily adopted on other grounds . . . science becomes politics" (Boehmer-Christiansen 1988: 145). What is ironic is that triumphant egalitarianism driven by politicized science could well produce a world even more unjustly hierarchic than the one it seeks to reform.

If change is to be managed, the obvious question is—by whom? Societies facing major threats tend to turn toward leaders who promise solutions, which almost invariably include circumscribing, suspending, or surrendering, at least for the duration of the threat, private prerogatives and liberties. From the tyrants of the cities of ancient Greece to the Great Depression of the 1930s, World War II, and the Cold War, emergencies contributed to extensive enlargements of the public sphere at the expense of the private one. Whether or not those catastrophes could have been avoided by better management is moot. Efficient management depends upon two enabling characteristics: the cause of the problem must be correctly identified and sanctions must be consistently enforced. Even if we concede, in the case of global climatic change, that the first demand is met, the second is unlikely to be unless we construct an international regulatory apparatus without precedent in scope or range. The egalitarian or communitarian leanings of many advocates of global management are well known, and although some claim, probably sincerely, a distaste for authoritarian management, it is doubtful that efficient management can be achieved without building a fairly strong consensus about the seriousness of the threat, the appropriateness of methods of mitigation, and building an institutional structure vested with strong powers of coercion—powers strong enough to override the resistance of dissidents including national states.

To construct a such a potent management apparatus in a highly participatory and democratic manner would not change its hierarchic nature. Democracies, like any other species of polity, must demand accountability—"getting agencies to serve agreed-upon goals" (Wilson 1989: 315). Accountability demands that someone be responsible, and at the day-to-day level, at least, those someones will tend to be less than Solomonic in their decisions. Limited knowledge and bounded rationality will see to that. Since authority must be devolved, a good deal of any agency's time is spent in working out and codifying, routinizing and enforcing standard operational procedures to minimize mis- and malfeasance. As regulation becomes more comprehensive it uses more resources, becomes less flexible, and grows more legalistic.

Heavily politicized issues, over which strong interest groups battle, tend to produce complex legislation because of the need to compromise. Frustratingly, it may be that the more open the policymaking

process the more detailed and dilatory legislation tends to be, as legislators try to reconcile disparate interests and circumscribe bureaucratic autonomy. In less open polities legislators can often afford to write more general (although not necessarily more vague or ambiguous) legislation. At the international level actors (both governmental and nongovernmental) are highly diverse, and in the absence of supranational authority international treaties and agreements are obtained "at the price of 'constructive ambiguity'"—"incertitude and indeterminacy" (Sand 1996: 1). Furthermore, international bureaucracies are seldom invested with sufficient authority or adequate budgets to fully carry out their mandates. Effective management at any level requires broadly accepted rules and legitimate institutions to implement them, and at the global level these requirements are seldom met. If this situation is to change—so that enforceable rules can be made—the two requirements are cosmological consensus and much stronger international organizations.

Cosmological Consensus

One of the most obvious characteristics of *Homo Sapiens* is the ability of the species to adapt to diverse environmental conditions, a capacity due primarily to intelligence and social cooperation. Humans live in communities. "What makes a community is the common recognition of the same rules" (Hayek 1978: 158). The essential characteristic of a successful community is a common culture—i.e., a working consensus about reality and the community's place in it. Culture is notoriously difficult to define, but it is helpful to see culture as "the common way in which a community of persons makes sense of the world" (Gross and Rayner 1985: 2). On this view, a community is a group of people sharing a way of life informed by a common cosmology. Cultures, in defining appropriate attitudes and behaviors, develop the logic and grammar through which communities interpret and adapt to their environment. Community action is oriented by culturally mediated beliefs about what is real and what is good, and channeled through culturally approved social, political, and economic institutions that codify and follow the accepted norms. If we are to have a global community, it will be one that shares the same rules. But, the world is a diverse place physically. Is a universal, one-size-fits-all cosmology either feasible or desirable?

The character of the political processes through which authority is allocated and rules are made differs depending on the level of diversity in the community. The larger the community and the higher the level of diversity, *ceteris paribus*, the more difficult it is to develop consensus

and the more likely that some level of coercion will be necessary to implement and enforce rules. It was Hobbes (1651) who pointed out that the way out of a state of anarchy is a social contract under which the state is made sovereign. The fundamental requirement for maintaining both order and liberty is a clear definition of and respect for the boundaries of the private and public spheres. Without strongly protected private rights mere authoritarianism (in which overt behaviors that threaten the state are prohibited) can be transformed into a far more Orwellian totalitarianism (in which the attempt is to force thought itself into approved channels).

Monistic social engineering, proceeding from one cosmological source, is as holistic as its principle is. A principle stating that ''If we are to survive, ecological considerations must guide economic and political ones'' (Commoner 1971: 291) may be called ecocentric, and everything flows from the core notion that our survival is really a matter of preserving the ecosystem. The more the planet is seen as a web of being, a complexly interdependent and endangered ecosystem in which the actions of every entity affect other entities, the less tolerance can there be for private interests that are perceived to threaten collective interests. Since the ways we earn our living, how we travel, what we eat, and how we handle our reproductive functions are all ecologically relevant candidates for ecocentric management in the name of the common good, little or nothing remains outside the scope of collective management. To circumscribe the state and minimize arbitrariness, regulators may be constrained by rules, such as constitutional provisions, but popular sovereignty, mobilized and directed by interest groups, can abolish or subvert such strictures. Anyhow, ''When there is a mismatch between legal rules and bureaucratic realities, the rules get subverted'' (Wilson 1989: 338).

That ecocentric cosmologies call for a fundamental change in the nature of current world social, economic, and political orders is not debatable, nor does it require a close reading of ecocentric writings to see the explicit contention that what is needed to accomplish this change is a massive cultural transformation. Paul Ehrlich (1988: 22) puts it clearly in connection with preserving biological diversity: ''A quasi-religious transformation leading to the appreciation of diversity for its own sake, apart from the obvious direct benefits to humanity, may be required to save other organisms and ourselves.'' Some ecocentric writers lean toward social action rather than ''quasi-religious transformation,'' calling ''for a transformation in political economy based on new ecologically sustainable modes of production and new democratic modes of political reproduction'' (Merchant 1992: 239–40). Ecocentric worldviews coincide on the need for the transformation of the current

world order. The threat posed by global warming is grist for the ecocentric mill, trumpeted as evidence of the folly of continuing on the course followed since the Industrial Revolution. The body of respectable science on climatic change, though admittedly still plagued with uncertainties, is strong enough to convince many people who might otherwise be skeptical about the project of transforming the world, that some ecocentric socioeconomic prescriptions need to be followed.

Prophesies of future conditions are themselves conditioned by the cosmological persuasion of the prophet—visions of the future reflect perceptions of the past and the philosophy of the present. An examination of three ways of looking at nature, whose roots can be traced to antiquity, can yield valuable insights into why people react as they do to information about environmental threats. Myths are paradigms of reality, intended to explain why things are as they seem to be and to guide attempts to cope with natural forces. Like scientific paradigms myths are subject to amendment or rejection as anomalies build up, but there are often universal elements in them. The myth of Prometheus, for instance, still reverberates in many modern psyches.[2]

What might a seriously disturbed ecosystem do? Will a benign nature adjust on its own, given time? Or, might a capricious nature tumble irretrievably over the edge, never in a socially relevant time span to recover? Or might it be that with wise management a resilient nature can be returned to stability? These three alternatives are consistent with three myths of nature that have been noted in ancient Greek and Roman thought (Wiman 1990), and remain useful in exploring fundamental worldviews which, it is hypothesized, influence the ways in which information about environmental issues is received and acted upon.

The First Myth

The first myth tells us that nature is benign: it is there for our use, and no matter what we do to it, it has its own systems of equilibrium and will in time restore itself. In any case, we humans are as natural as any other species. Likening natural systems to those postulated by classical economics, this view is content to leave to the invisible hand ecological as well as economic balancing. In any case, the myth suggests, we have little choice: nature is a complex entity, and strive as

[2]In Greek mythology Prometheus stole fire from heaven for the sake of miserable humanity and was punished by Zeus. Prometheus was chained to a rock or pillar with unbreakable chains, and each day a vulture came to devour his liver, which each night was regenerated so that the torment was unending.

we may there are limits to our understanding. We should refrain from making rules about things we do not fully understand. In the here and now we can do only what seems the rational thing, letting unknowns take care of themselves. Risk aversion tends thus to be relatively low among holders of this cosmology. Of course a believer in this myth may see in nature more than mere utilitarian value. Wilderness has utility as a symbol of untrammeled beauty, and we may wish to conserve more or less of it, but conservation policies ought carefully to consider the rights and interests of those who are most directly affected by conservation measures. When we see that we are using up some natural resource, the event will be signaled by price increases, which will arouse the inventiveness and resourcefulness necessary to adapt.

The myth of benign nature is hospitable to technological development. Given freedom, it suggests, most people can find their way in the world, and the corollary is that those who fail have in many, if not most, cases culpably neglected to seize their opportunities, and must pay the consequences. What is done out of charity or even duty to help them ought to be left to individuals, who are better judges of the costs and benefits relevant to any particular case. Since private property rights are the foundation of freedom and therefore of a sound economic and political system, this cosmology predisposes adherents toward laissez-faire policies and skepticism about news reports or scientific studies warning of environmental disaster. All this predisposes against collective management, especially when power is placed in governmental hands. This cosmology is most compatible with individualistic or libertarian ideas. Efficiency is the core policy virtue.

The Second Myth

The second myth sees nature as ephemeral. Its intrinsically beautiful equilibrium is fragile and must be carefully preserved lest it collapse. This view tends toward high levels of risk aversion. Since nature is complexly holistic, humans must not meddle much with it, so technological development must be handled carefully. On the whole, life is somewhat of a lottery, for we have no control over where or when or with what gifts we are born. We cannot always overcome handicaps we may have, nor can we take much credit for good fortune. Since there but for the grace of God (or the lottery) go I, my proper reaction is to help those less fortunate. Toward this end, the best governmental system is communitarian, highly participatory, and inclusive, its major goal to eliminate disparities in opportunity, power, and wealth. Such asymmetries disturb the social balance, and therefore the ecological balance. Advocates of this worldview are predisposed to create or

credit news stories or even scientific studies warning of environmental threats and to push for collective responses to threats. Given the current lack of community, managerial solutions to such threats are acceptable so long as the decisionmaking process is inclusive and democratic. This cosmology is most consistent with egalitarianism, holding equity as the key policy virtue.

The Third Myth

The third myth says that nature is somewhat perverse. Its fundamental resilience has limits that can be exceeded by unwise or careless human behavior, but it flourishes under prudent management. What is needed is to identify and stay within those limits. Like the second myth, this one tends to be communitarian, but rather elitist than egalitarian. The best and brightest among us should be invested with the necessary authority to define and ensure the common good. Expertise, which can only be gained by hard, disciplined work, is the best policy guide we have. It is only prudent, especially in these egalitarian times, to endorse democracy, but democracy's success depends on educating the populace as well as can be and on rewarding merit in order to encourage it. This worldview inclines adherents toward accepting accounts of environmental threats and solutions when the stories seem to be supported by adequate scientific and managerial expertise, and when the preferred solutions, whether through technological development or not, and whether private or governmental, are manipulable. Managerial solutions are attractive to this cosmology, which is consistent with hierarchy. Effectiveness is the key policy virtue.

A Balanced Worldview

Individuals seem frequently to combine elements of these three myths in their worldview (a factor that may help account for some of the incoherence often noted in opinion polling), but in many cases one predominates or one is rejected (Pendergraft 1998). Due to the complexity of many issues, certain aspects of a policy may seem attractive while others do not, so complexity also renders evaluators more or less ambivalent. Still, every society must be more or less hierarchic, more or less individualistic, and more or less egalitarian, and these characteristics will vary over time. If for adaptive purposes social diversity is as important as biological diversity, it does not seem wise (let alone ethical) to allow any one view to drive the others from political, educational, or scientific arenas. The optimal cosmological mix might vary from time to time depending on what sort of threats the society faces, but a global society captured by a monistic worldview

is unlikely to be sustainable unless that worldview just happens to capture most of the truth of reality. Given the historical persistence of the three worldviews, I think it likely that each recognizes part of the existential truth but none monopolizes it.

The political problem, of course, is that zealous advocates of a view think they are wholly correct and often try to coerce others to conform to their way of looking at things. Theologian Hans Barth (1960: 2) put it well: ''Man has always justified unlimited coercion by rightly or wrongly assuming and monopolizing the possession of some absolute truth. And obviously all those political theories which prepare and foster revolutions, and subsequently justify them, are very closely associated with theories of truth.'' Those who call for a universal transformation of worldview should consider the analogy between biodiversity and cosmological diversity. If one is ecologically important, I argue, both are important, for similar reasons.

Adaptation and Freedom

The relationship between adaptation and freedom is a close, functional one. Adaptation, as Hayek infers, depends on ''reactions to the unforeseeable, and . . . the only possibility of transcending the capacity of individual minds is to rely on the super-personal 'self-organizing' forces which create spontaneous orders'' (Hayek 1973: 54). A corollary of this point is that ''Since the value of freedom rests on the opportunities it provides for unforeseen and unpredictable actions, we will rarely know what we lose through a particular restriction of freedom'' (Hayek 1973: 56)—but one of the losses could be adaptive capacity. In actual cases of adaptation successful behavior is observed and copied. Adaptation consists of the emulation of successful behavior. It is perhaps a legitimate role of government to publicize such success, or even to encourage it, but it is beyond government's proper sphere to coerce it, for coercion replaces the individual's judgment with government's, endangering the very springs of adaptive behavior.

The problem, as Hayek (1973: 56) points out, is that many times it seems clear that particular benefits will be derived from restricting particular liberties, and since we are unlikely to know just what that restriction will cost in more general terms, we usually sacrifice another increment of freedom. Hayek, of course, makes the crucial argument that it is the permissible extent of power that must be the issue, rather than the character of the holders of that power (Hayek 1973: 72). Would stronger international institutions extend governmental power, or merely transfer it to other hands? The answer to that question lies in the principles driving the behavior of such institutions.

Stronger International Institutions

If ecological problems are viewed holistically, so must be their solutions. A holistic approach tends to demand a fundamental restructuring of the international system, currently based on territoriality and the sovereignty of states. As Keohane, Haas, and Levy (1993: 3) put it:

> Because states are ultimately concerned with protecting national security and maintaining economic growth, they may be incapable of adequately addressing the fundamental problems which have given rise to environmental issues. As long as governments protect national interests and refuse to grant significant powers to supranational authorities . . . [critics of the current system argue], the survival of the planet is in jeopardy. In the words of one such critic, ''our accepted definition of the limits of national sovereignty as coinciding with national borders is obsolete.''

Since that obsolescence is apparently not yet recognized by most powers that be, the incremental approach is to establish international regimes. Regimes are essentially subjective: they are ''principles, norms, rules, and decision-making procedure around which actor expectations converge in a given issue-area'' (Krasner 1983: 1). Regimes are attempts by states to manage problems in specific issue areas, such as international trade, protecting endangered species, or who is allowed to do what in Antarctica, but they are often given more concrete substance by creating secretariats or bureaucracies (e.g., the World Trade Organization, the General Agreement on Tariffs and Trade, or the Global Environmental Facility) to serve such purposes as coordinating technical or financial assistance or monitoring compliance. In some cases the institutions have some authority to recommend or apply sanctions for violations of the agreement, but these powers are generally weak because states frequently use their sovereign status to ignore or modify obligations or to free-ride on the efforts of others. Ultimately, regime effectiveness depends on the existence of coincident interests among states, especially powerful states. A longtime student of international environmental policy concludes that ''Social understanding and institutional means for managing scientific and technological innovation are lagging far behind human efforts to manage the biosphere'' (Caldwell 1990: 252).

Another scholar of international regimes sums the situation up for those institutions designed to transfer funds to poor countries:

> The formulation and implementation of coherent and well-designed policies governing the transfer of funds from rich to poor countries, to protect the natural environment, are subject to severe political constraints. Ineffectiveness of various sorts is endemic. . . . [A]t the

> core of institution building with respect to financial transfers are contracting problems: how to draw up contracts (in the absence of a world judicial and police system that can enforce them) that are robust to attempts at manipulation and in which the parties can have confidence [Keohane 1996: 7].

The absence of an effective enforcement system limits the effectiveness of international efforts to protect the environment, but the prospect of constructing and empowering an international authority capable of enforcing environmental agreements is an awesome one. One must ask whether such an authority must not be supra- rather than international, because states, at least if they are powerful ones, maintain a monopoly over the legitimate use of force in their territories. Furthermore, a supranational institution would be dominated by the more powerful member-states, as the European Union, the nearest approach to a supranational institution, is dominated by Germany, France, and Great Britain.[3] Power, the capacity to cause other actors to do what they would not otherwise have done, is the essence of politics and of management at any level.

Most of the current literature advocating managerial solutions to ecological problems is informed by either egalitarian or hierarchic views, or, ironically enough, by a melding of those opposite views. The threat of ecological disaster drives the two communitarian views toward one another, isolating the individualistic worldview, which prefers market solutions to bureaucratic management or to decisions made by "public opinion." Individualism and egalitarianism, however, sometimes unite against command-and-control policies that might be favored by hierarchs, particularly when the bureaucracies concerned seem remote from local influence and concerns. On the other hand, hierarchs and individualists can sometimes agree on a quasi-market approach to regulation. The current international trend seems to be in the direction of a circumscribed, carefully controlled market system. The growing interdependence of national economies pushes toward this kind of outcome, which is clearly a kind of compromise.

Cosmologically speaking, a classical balance of power political game is played, with two worldviews allying against the other one when the

[3]The best analysis of international and supranational organization remains Claude (1984: 443). He admirably sums up the reality:

> Here is a real paradox: the international community is so deficient in consensual foundations that it must theoretically be held together more by force than by consent, but it is marked by such decentralization of the resources of political and physical power that it must in practice be managed by agencies, whether they be called instruments of international organization or of world federation, that operate more by persuasion than by coercion.

latter seems too dominant. When competing coalitions are closely balanced in power, outcomes will resemble market outcomes, which means that Pareto-optimal outcomes are unlikely when there are more than two players.[4] However, moving toward Pareto-optimality in a world in which wealth and power are asymmetrically distributed is an egalitarian goal, for it means that allocations of valued goods are moving toward social optimality.

A holistic view of ecological problems encourages the perception of threats as global, which increases the salience of any ecological threat to everyone. It can be argued that the more risk averse a society is, as measured by its efforts to protect itself from threats, the higher its taxes will be, for it costs money to allay risks. It can also be argued that the larger the risk the more resources can be justified to cope with it. When there are lots of risks there is a lot of competition for scarce resources. The view that nature is fragile encourages collective responsibility for preserving nature, makes preservation projects collective "goods," and evokes the problems presented by any attempt to provide collective goods—especially those of free-and forced-riders. Indeed, one of the major issues surrounding negotiations aimed at establishing an international regime to cut back on the emissions of greenhouse gases is precisely that of free-riding. Poor countries demand, on equitable grounds, the right to increase their emissions as they attempt to build their economies, calling on wealthy countries to bear the major burdens of cutting back or stabilizing emissions. Dissenting wealthy countries, such as Australia or oftentimes the United States, may or may not be forced to go along, depending perhaps on the relative political or economic strength of domestic actors.

It is likely, then, that managerial institutions for the global environment will be products of hierarchic responses to populist egalitarian demands, shaped within a context of a market-oriented transnational economic system. Ontogeny recapitulates phylogeny,[5] and one consequence of this is that attempts to manage the world, as compromises among three cultural types, are unlikely to be fully satisfactory to any. This does not bode well for the dream of a harmonious global community.

[4]A Pareto-optimal outcome exists when it is impossible for one actor to gain without another incurring a loss. Maximum market efficiency has been reached. The larger the number of players, the less likely that such an outcome can be reached.

[5]For years I've wanted to use that sentence.

Conclusion

Humankind has many values, among which tension is frequent, even as it is within the individual. A strong argument can be made that liberty and equality are mutually incompatible, and beyond some limit so are liberty and order. Paradoxically, order makes liberty possible and secures it, while liberty makes order tolerable. Liberty and order together produce whatever level of equality a culture deems equitable. The energy provided by tensions among values generates social order. Spontaneous social order arises from forces innate in society—basically the energy produced by competition between self-interest and collective interest. As Hayek (1973: 36) argued, authoritarianism arises ''entirely from the belief that order can be created only by forces outside the system (or 'exogenously'). It does not apply to an equilibrium set up from within (or 'endogenously') such as that which the general theory of the market endeavours to explain.'' Neither national nor international orders are the product of planning—no one person or group deserves total credit or blame for any of them. Rather, order is the outcome of competition among proponents of diverse views of how people ought to live, a competition carried out in a context of asymmetric distributions of the elements of power.

Climatic change as such is exogenous to society, but the perception of a *threat* of climatic change is socially endogenous. Exogenous change, such as climatic change, forces societies to adapt or, if the change is severe enough, to perish. The efficacy of endogenous change depends on how closely perception mirrors reality. If, indeed, climatic change will have more negative effects than positive, and if indeed the proximate cause is anthropogenic emissions of greenhouse gases, then endogenous changes are appropriate. Adaptation *is* endogenous reaction to exogenous change. The specter of climatic change, emerging from laboratories and computer models into the political arena, is a social force pushing for social change. So long as the possibility remained in the laboratories and computer models of scientists it had no effect on liberty, equality or order, but politicization transforms it from information (speculative or nascent knowledge) about exogenous reality into diverging opinions about what is true and what should be done. Physical science may inform us about what is physically necessary to mitigate a physical problem, but neither it nor social science can tell us what is morally, ethically, or socially best. Those decisions are made by the working out of various propositions through an infinitely complex universe of social interactions. Those who would manage not only physical objects but also cosmologies and the behavior they influence are attempting to construct or to impose a social order

whose ultimate effects are beyond our powers of comprehension, but which, given human limitations, are not altogether sanguine.

Those who would attempt to manage the planet—because, they argue, failure to do so will lead to ecological collapse—have some cogent points. However, it can be maintained with at least as much cogency that the truly vital common good is the freedom to choose how one wants to live; for freedom is also the key to effective adaptation.

The core issue is how best to balance private with public interests. Put another way, it is the basic political question of how best to allocate power. To accept endogenously driven, proactive change aimed at coping with an exogenous threat is one thing, but it is quite another when the linkage between threat, change, and outcome is unclear. The unintended consequences of endogenous change may be far broader and deeper than expected. When proposed changes endanger cosmological diversity by attempting to radically transform worldviews, it constitutes as great a threat as any climatic change. Each cosmology has its characteristic fear of particular risks, but from any point of view the risk that government will fail to justify its power is salient. History is replete with both climatic variations and governmental failures, but it seems to me that it is easier to adapt successfully to the first than to the latter.

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