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BOOK REVIEW

COMING INTO THE ANTHROPOCENE

ENVIRONMENT IN THE BALANCE: THE GREEN MOVEMENT AND THE SUPREME COURT. By Jonathan Z. Cannon. Cambridge, Mass.: Harvard University Press. 2015. Pp. 374. \$45.00.

*Reviewed by Jedediah Purdy**

INTRODUCTION

Law is the boring side of many interesting topics. Entertainment law is not famously amusing, nor is the law of war notably heroic or monstrous. Law is the place where passion comes to die of procedure.

Nonetheless, there is something especially poignant in this vignette from the early weeks of any introductory course on environmental law. Students arrive, animated by a memory of Yosemite Valley or a kayaking trip, a passion for biology or rock climbing, a love of oceans or animals. They find seats, deposit their water bottles, and open their laptops. Then they are introduced to the Clean Air Act¹ and the National Environmental Policy Act² (NEPA), the category of Best Available Technology, and the Finding of No Significant Impact.

Aesthetic judgments are notoriously hard to defend, but it does not seem controversial that environmental law is among the driest, most technical, and least thematically coherent fields around. If environmental law has a superstatute,³ it is the procedural NEPA, which does not engage the substantive values at stake in the natural world. Little in the way of rich or imaginative doctrine has developed: the field remains defined by court review of agency interpretation of statutes — making it, in effect, a subfield of administrative law, only with rivers and trees in the cases. Although much of the scholarship in environmental law has tried to find a master vocabulary in cost-benefit analysis, the law itself has an inconsistent, even erratic relation to economic balancing.

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¹ Pub. L. No. 91-604, 84 Stat. 1676 (1970) (codified as amended in scattered sections of 42 U.S.C.).

² Pub. L. No. 91-190, 83 Stat. 852 (1970) (codified as amended at 42 U.S.C. §§ 4321-4347 (2012)).

³ See William N. Eskridge & John Ferejohn, *Super-Statutes*, 50 DUKE L.J. 1215, 1216, 1230-31 (2001) (describing superstatutes as laws that substantially alter the regulatory baseline with a new policy or principle, stick in the public culture, and have a broad effect on the law).

Not to put too fine a point on it, environmental law is often boring. Yet it is among the fields that people come to, and stay in, out of love. It is one area where procedure has not killed off passion. This is true despite the fact that the nature-loving students who fill environmental law classes find little in the statutes and doctrines to match the zeal of their commitments.

Professor Jonathan Z. Cannon knows both sides of this paradox with a rare intimacy. He was general counsel of the Environmental Protection Agency (EPA) from 1995 until 1998, following a nearly twenty-year career practicing environmental law in both the government and private sector.⁴ He is currently the Blaine T. Phillips Distinguished Professor of Environmental Law at the University of Virginia Law School, where, along with “hard” environmental law, he teaches a seminar, cross-listed with the English department, on the literature of environmentalism.⁵ He has spoken on public occasions about the adult lawyer’s version of the beginning student’s discomfiture: rooms full of high-powered advocates, expertly deploying technical vocabulary, none of them naming the underlying question that fuels their conflict — whether a tract of forest should be logged, a coal-fired turbine installed, or a piece of habitat paved for a highway.⁶ The conflicting commitments that bring parties and lawyers to the bar are often so concealed in technical forms that they are irrecoverably invisible.

Cannon’s debut book, *Environment in the Balance*, sets itself an ambitious task: to overcome this division by showing that environmental law, much as it may appear dry and dull, is deeply infused with conflicts over values. Cannon’s project is to reveal the green ghost in the gray machine, the soul of disagreement that lends shape to arguments that may otherwise seem aridly technical. He does this by carefully reading thirty major Supreme Court decisions in environmental law and teasing out the differences in worldview that animate the Justices’ reasoning — divisions that are not simply over abstract legal questions, but rather reflect divergent views of the natural world and the human place in it.

This Review places Cannon’s arguments at the cusp of a new era in environmental law, politics, and culture that is also a new era of planetary history: the Anthropocene, or “age of humanity.” In the Anthropocene, people have become a force, arguably *the* force, in the

⁴ See Jonathan Z. Cannon, U. VA. SCH. L., http://www.law.virginia.edu/lawweb/Faculty.nsf/PrFHPbW/jzc8j?OpenDocument&ExpandSection=2#_Section2 [<http://perma.cc/JZC5-GZH3>].

⁵ See *id.*

⁶ E.g., Jonathan Cannon, Religious Roots, New Futures? — The Promise and Peril of Faith in Environmental Law (Apr. 13, 2013), in *18th Annual Symposium: Religion, Faith and the Environment*, U. UTAH S.J. QUINNEY C.L., <http://www.law.utah.edu/event/12233> [<http://perma.cc/YPV9-5MYE>].

development of the planet. From atmospheric chemistry and global weather patterns to biodiversity, the world we inhabit is increasingly the world we are creating. This suite of changes has great meaning for understanding environmental law.

Parts I and II of this Review present a faithful and admiring account of Cannon's major arguments. They trace the struggle between environmentalist and anti-environmentalist worldviews in key interpretive contests: over the scope of Article III standing; the place of private property in the Fifth Amendment's Takings Clause; the prohibition on "taking" a member of an endangered species in the Endangered Species Act⁷ (ESA); and the procedural and/or substantive character of NEPA. Section III.A then assesses Cannon's weighing of the prospects for synthesis among competing environmental worldviews, notably in market-oriented environmentalism and the enthusiasm for technology among, for instance, advocates of geoengineering as a response to climate change. Section III.B locates Cannon's topic within the last forty-five years of environmental law's history. The environmental worldviews of judges are particularly interesting now because environmental legislation has stalled, making interpretation by courts and agencies especially salient. Therefore, *how* these interpreters reason, and how their reasoning is influenced by the environmental worldviews that Cannon traces, contributes significantly to the development of environmental law in practice.

In section III.C, I introduce the concept of the Anthropocene and argue that both types of worldview that Cannon traces, the environmental and ecological and the anti-environmental and pre-ecological, are products of pre-Anthropocene understandings of environmental problems. They presuppose a relatively stable meaning of "nature," both empirically — what nature is and how it works — and normatively — what the value of nature is and how human values fit within it. Both the empirical and the normative baselines are irrecoverably gone in the Anthropocene. In the future, both the material characteristics of the world and the values embodied in it will be, in important ways, products of human activity and decision.

In Part IV, I argue that the human decisions that shape the Anthropocene should be political and democratic. In section IV.A, I consider the alternatives — market-modeled economic rationality and administrative technocracy — and argue that neither is conceptually adequate to solve a problem that involves not just clarifying and aggregating values, but also choosing those values in the project of choosing what sort of world to inhabit. The source of these choices is

⁷ Pub. L. No. 93-205, 87 Stat. 884 (1973) (codified as amended in scattered sections of 7 and 16 U.S.C.).

not expertise, but the larger ferment of cultural argument, which only politics can make the basis of collective choice; only democratic politics, in turn, can do so legitimately. If Anthropocene choices are not taken democratically, they will amount to the imposition, willy-nilly, of the preferred futures of some on the lives of others.

In section IV.B, I reflect on the difficulty of making good on what I have argued, particularly in light of the gap between the scope and capacity of existing democratic orders and the scale and intensity of interlinked economic and ecological changes. I argue that a choice of environmental futures is inseparable from a choice of economic futures: because economic life is the center of humans' collective shaping of the planet, there is, in a real sense, no question of economic policy that is not also an environmental question, and no environmental question that can be resolved without corresponding economic judgments. Concurrently, those who recognize this expansion of the meaning of environmental problems must keep in view how very far the ideal of democratic decisionmaking about these linked environmental-economic questions is from the present reality of nominally democratic governments: inefficacy, inadequate scope, the oligarchy-making role of money, and persistent failures of collective self-restraint. For the reasons developed above, an environmental politics adequate to the Anthropocene question can arise only alongside an enhanced and expanded democracy.

I. ENVIRONMENTALISM'S INCOMPLETE REVOLUTION

Cannon's story begins with a reminder: environmental law may seem a merely technical field now, but it was not always so. Four-plus decades ago, the birth of modern environmental law came at a time of tremendous cultural ferment. From Sierra Club activists to influential commentators to congresspersons explaining the wave of environmental legislation that emerged in the 1970s, many argued that ecological insight demanded changes in values and consciousness. Ecology, explained the *Sierra Club Bulletin*, had been a science; now it needed to become something more like a religion.⁸ Pundits and legislators agreed.⁹

⁸ Elizabeth Rogers, *Protest!*, SIERRA CLUB BULL. (Sierra Club, San Francisco, Cal.), Dec. 1969, at 10, 20 (quoting Kerry Thornley, *Digging Wholes*, WORKSHOP IN NONVIOLENCE (WIN) (War Resisters League, New York, N.Y.), Aug. 1969, at 21); see also Connie Flatboe, *Environmental Teach-In*, SIERRA CLUB BULL. (Sierra Club, San Francisco, Cal.), Mar. 1970, at 14, 15 (calling for a "cultural transformation" marked by "personal commitment to a new philosophy and poetry of ecology" (quoting Jerry Yudelson of the California Institute of Technology Environmental Action Council)).

⁹ See Flora Lewis, *Instant Mass-Movement*, L.A. TIMES, Apr. 29, 1970, at B7 ("The ideas [of ecology] are so fundamentally new, so drastically opposed to the heritage of many centuries, they are painful to absorb. . . . Environmental harmony requires a much deeper review of western thought, now challenged on almost every level."); see also 117 CONG. REC. 38,819 (1971) (state-

Drawing on several decades of social science research, Cannon argues that this activism was not empty talk. Rather, a genuine shift in consciousness occurred in the environmental politics of the 1960s and 1970s (p. 5). This shift brought to prominence a “new environmental paradigm” (p. 6),¹⁰ an outlook including the beliefs that (1) “nature is a limited resource on which humans depend” for health and survival (p. 6); (2) human-natural systems are interdependent and complex, characterized by delicate balances that are vulnerable to disruption; and (3) nature’s value is not simply in its usefulness to human beings: it should also be valued for its own sake (p. 6). Taken together, these ideas implied — at least to many environmentalists — that human beings should work to achieve, sustain, and participate in a harmonious relationship with fragile, finite natural systems (pp. 13–23).¹¹ Many environmentalists also concluded that, in light of the vulnerability of natural systems, the intensity of human dependence on them, and the intrinsic value of nature, environmental concerns should enjoy priority: nature should come first, at least sometimes (p. 23).

In Cannon’s telling, only some Americans adopted the new environmental paradigm. Others remained attached to the “dominant social paradigm,” an outlook regarding nature as (1) abundant; (2) robust; and (3) valuable chiefly for its usefulness to human beings (pp. 6–7).¹² These optimistic and human-centered premises about nature tended to support a program of market-led extraction and use of natural resources: in short, a laissez-faire, development-oriented agenda (p. 7). By contrast, the new environmental paradigm tended to support extensive regulatory intervention to protect finite and delicate natural systems from human damage, both for their own sake and to prevent blowback harm to human health (pp. 19–25). Cannon follows Professor Dan Kahan and his collaborators in arguing that the disagreements between the two worldviews over environmental questions tracks more general disagreements about government regulation and the role of the state in economic life (pp. 7–9). Kahan and his colleagues have found that variance over a wide range of issues, from abortion and guns to nuclear power and climate change, corresponds robustly to individuals’ locations on a four-part worldview grid whose two axes run between the poles of hierarchy versus egalitarianism, and individualism versus collectivism (pp. 7–9). Because the new environmental

ment of Sen. John Sherman Cooper) (arguing that the Clean Water Act “asserts the primacy of the natural order on which all, including man, depends”).

¹⁰ The author quotes Riley E. Dunlap & Kent D. Van Liere, *The “New Environmental Paradigm”: A Proposed Measuring Instrument and Preliminary Results*, 9 J. ENVTL. EDUC. 19 (1978).

¹¹ The author explores the relation among these values and their implications.

¹² The author cites Riley E. Dunlap & Kent D. Van Liere, *Commitment to the Dominant Social Paradigm and Concern for Environmental Quality*, 65 SOC. SCI. Q. 1013 (1984).

paradigm — let’s call it the “ecological outlook,” to avoid the neologism! — supports a strong role for government and promotes regulation of businesses, ranchers, and farmers, it attracts collectivists and alienates individualists (pp. 8–9).

Perhaps because of its mistrust of traditional figures of authority such as business leaders, its embrace of community-led activism, and its concern for the victims of environmental harm, the ecological outlook also has affinities with egalitarian rather than hierarchical outlooks (pp. 8–9). Moreover, the ecological outlook contradicts a key traditional hierarchy, the presumed superiority of human beings over the natural world, and proposes to replace it with biological egalitarianism, the recognition that all living things matter (pp. 13–15). Because differences in worldview affect not just “normative” questions (“How important is nature relative to human interests?”) but also how people process “empirical” information (“How fragile is nature? How much harm are people doing, and what dangers are they creating?”), the ecological outlook tends to perpetuate and even amplify its own characteristics (p. 9).

Environmental law, then, arose as part of an incomplete revolution. During the 1970s, modern environmental law took form as the United States adopted a wave of major statutes, most of them by overwhelming congressional majorities. These statutes included NEPA, the Clean Water Act,¹³ the Clean Air Act, and the ESA, as well as the Comprehensive Environmental Response, Compensation, and Liability Act¹⁴ (CERCLA, or the “Superfund Act”). By the late 1970s, sociologists were beginning to document the emergence of a pro-environment consensus in American society (pp. 6–7).¹⁵ But that growth of concern soon stalled (p. 5). Indeed, the pre-ecological¹⁶ outlook of the 1970s could not overcome the dominant social paradigm (p. 7). Absorbed into longer-running American divisions between hierarchy and equality, and individualism and community, environmentalism became a flash point of disagreement.¹⁷ As Cannon summarizes his interpretation of the last forty-five years: “We face a paradox Despite its apparently successful inroads into the culture, environmentalism is perceived

¹³ Pub. L. No. 92-500, 86 Stat. 816 (1972) (codified as amended in scattered sections of 33 U.S.C.).

¹⁴ Pub. L. No. 96-510, 94 Stat. 2767 (1980) (codified as amended in scattered sections of 26, 33, and 42 U.S.C.).

¹⁵ The author cites Dunlap & Van Liere, *supra* note 10, at 19.

¹⁶ I use the term “pre-ecological” both to avoid neologism and because whether it remains dominant is unclear.

¹⁷ See Jedediah Purdy, *American Natures: The Shape of Conflict in Environmental Law*, 36 HARV. ENVTL. L. REV. 169, 215–18 (2012) [hereinafter Purdy, *American Natures*]; see also Jedediah Purdy, *Our Place in the World: A New Relationship for Environmental Ethics and Laws*, 62 DUKE L.J. 857, 880–81 (2013) [hereinafter Purdy, *Our Place in the World*].

widely as having failed in its basic transformative mission and lacking the strength to force further change” (p. 26). In other words, environmentalism has reached an impasse.

II. CULTURAL DIVISION AS A KEY TO LEGAL INTERPRETATION

Cannon’s cultural interpretation of environmentalism is the keystone of a bridge connecting widespread but amorphous political conflict to specific Supreme Court decisions. Certain important areas of doctrine pivot on the worldviews of the Justices (p. 49). Such areas concern watershed questions about the role and structure of law: the jurisdiction of the federal courts and Congress; the existence or nonexistence of substantive priority for environmental protection or, alternatively, of substantive priority for private property rights; and the status of cost-benefit analysis in the design of regulation. In certain cases involving standing, the Commerce Clause, the Takings Clause, and a variety of statutory interpretation questions, the Court of course looks to traditional legal materials, as it does elsewhere; but what it makes of those materials depends in part on where the Justices stand with respect to the basic division between the post-1970 ecological worldview and the human-centered, development-oriented outlook that competes with it.

Certain constitutional questions especially lend themselves to this type of analysis because their core concepts were formed in eras when the law’s commitment to the traditional paradigm was much stronger. Their contours express the shape of a pre-ecological worldview. The Court’s choice in these cases, therefore, comes down to whether it will change inherited concepts by incorporating elements of the ecological outlook, or whether it will cabin the reach of the ecological outlook by fencing environmental claims within pre-ecological legal constraints. Legal interpretation in these cases is also a face-off between ecological and pre-ecological versions of ideas such as causation and harm, the public interest, and the meaning of private property in land.

A. *Ecological Standing*

Take standing¹⁸: a party’s qualification to bring a claim in federal court depends on the familiar formula that she must have (1) suffered an injury that (2) is caused by a breach of another party’s legal duty and (3) is likely to be remedied by the action the plaintiff requests of the court.¹⁹ This formula necessarily turns on views about what counts as injury, causation, and remediation. Traditionally, the term

¹⁸ Cannon devotes an entire chapter to standing (pp. 141–70), in which he pays particular attention to *Massachusetts v. EPA*, 549 U.S. 497 (2007) (pp. 164–69).

¹⁹ See, e.g., *Lujan v. Defs. of Wildlife*, 504 U.S. 555, 560–61 (1992).

“injury” means harms to a bodily or economic interest, particularly that of a property holder.²⁰ Standing’s paradigmatic legal subject, therefore, is the autonomous individual, standing apart from nature and in control of it. A legally cognizable injury would be, so to speak, a direct hit on the body or property of that individual.

This concept may seem rather abstract, but its importance comes into focus once one appreciates how sharply certain ecological premises call these assumptions into question, in practical ways that federal courts cannot avoid addressing. The modern environmental movement portrays people as having salient, nonownership interests in both nature itself and the defense of intrinsically valuable natural entities like rivers and endangered species. Citizen-suit provisions authorize plaintiffs to enforce these interests by, for example, seeking review of administrative actions, or vindicating antipollution or species-protecting statutes.²¹ Permitting these cases to go forward accepts that the new environmental paradigm has changed the set of legally cognizable interests that federal courts may enforce; blocking them on standing grounds marks a constitutional boundary on the ecological expansion of the law’s conception of injury.

If new environmental values force judgments about the meaning of “injury” in standing jurisprudence, the ecological premise of interdependence invites new questions about what it means to cause an injury, and what counts as a remedy. The defining problem of modern environmental law is the management of subtle, complex, long-distance forms of interdependence, in which an event may have effects much later, far away, and in an unexpected fashion: air pollution, for instance, showing up as lake acidification or higher heavy-metal levels in soil many miles downwind. Such problems do not present what the traditional law of standing would have regarded as direct hits to person or property. Many other contributing and mitigating factors confound the effects: What other sources of pollution are involved? What is the baseline level of contamination? How far is too far downwind? What level of dilution removes water pollution from the polluter’s responsibility?

As Justice Scalia emphasized shortly before joining the Court, environmental plaintiffs ask the government to regulate a third party — usually a landowner or industry claimed to be in violation of an environmental statute.²² In this regard, standing cases crystallize the

²⁰ See *Injury*, BLACK’S LAW DICTIONARY (10th ed. 2014) (describing types of legal injury, including many involving bodily or economic harm).

²¹ See *Lujan*, 504 U.S. at 562–63 (“[T]he desire to use or observe an animal species, even for purely esthetic purposes, is undeniably a cognizable interest for purpose of standing.”).

²² See Antonin Scalia, *The Doctrine of Standing as an Essential Element of the Separation of Powers*, 17 SUFFOLK U. L. REV. 881, 882–85 (1983). Justice Scalia also pointed out that the

dispute that Cannon and others see as central to political disputes over environmentalism: whether and in what respects government may appropriately regulate the market economy.

The issue of interdependence was at the heart of Chief Justice Roberts's dissent in *Massachusetts v. EPA*.²³ Writing for four Justices, the Chief Justice argued in effect that climate change so thoroughly fails to fit the contours of traditional standing that no plaintiff can come into federal court to ask that it be regulated.²⁴ The lines of interdependence are too long, complex, and globally dispersed across jurisdictions, and the relative contributions of human action and baseline natural perturbations too obscure, for a court to say that any one injury was caused by any specific breach of legal duty and would likely be remedied by addressing that breach. In a sense, this idea is uncontroversial, and precisely the point of environmentalists' insistence on interdependence: nothing can be understood in isolation from everything else. The question is what these facts about the natural world imply for humans' legal responsibilities. There was irony in Chief Justice Roberts's opinion: it implied that intensified interdependence diminished responsibility so much that the federal courts had to wash their hands of climate change.

By contrast, Justice Stevens's opinion for the Court accepted that causal relationships that would once have seemed too attenuated to support standing can justify Article III jurisdiction today, in light of new insight into ecological relations and the urgency of addressing climate change (a powerful supporting consideration).²⁵ Taking these touchstones of the ecological outlook as implicit sources of legal interpretation produced an expansive view of standing, while confining standing to pre-ecological concepts would have blocked climate change plaintiffs from the federal courts. So constitutional interpretation can also be a contest between differing views of the natural world.

B. *Private Property in the Age of Interdependence*

In some instances, the Justices' environmental attitudes inflect both their constitutional and their statutory interpretations. Cases dealing with private property are exemplary.²⁶ William Blackstone's famous description of the "sole and despotic dominion" that ownership estab-

traditional judicial responsibility is to protect the rights of individuals against the majority. *See id.* at 894; *see also Lujan*, 504 U.S. at 561–62.

²³ 549 U.S. at 535 (Roberts, C.J., dissenting).

²⁴ *See id.* at 535–49.

²⁵ *See id.* at 516–26 (majority opinion).

²⁶ Cannon discusses private property (pp. 200–30), focusing on *Lucas v. South Carolina Coastal Council*, 505 U.S. 1003 (1992), (pp. 206–16); and *Babbitt v. Sweet Home Chapter of Communities for a Great Oregon*, 515 U.S. 687 (1995), (pp. 218–22), concluding with an interpretive summary (pp. 226–30).

lishes over a piece of land²⁷ has been much belittled and qualified, but it remains a touchstone expression of what one might call the classical version of property.²⁸ Ownership, in the classical version, implied primary and nearly exhaustive authority to set the agenda of use for a piece of land: whether agriculture, industry, residence, or preservation, the decision lay with the owner. The common law's restrictions on owners' authority served mainly to protect the reciprocal interests of immediately neighboring landowners, as nuisance doctrine did, or to secure the interests of future owners who already enjoyed legally defined reversionary or remainder interests, as in the law of waste. Owners, that is, owed some forbearance to other owners who neighbored them in space or time; but otherwise, the use of land was up to the current owners.

Ecological interconnection implies a much wider set of interests at stake in private land use. Numerous and remote others, many (if not most) of whom are not the owners of private lands, may depend on the water purification that wetlands accomplish, the carbon uptake of forests, or the storm-buffering effect of a barrier beach. And these examples are merely at the level of the individual landowner: much broader effects come into play when one considers air and water emissions from factories, power plants, and so forth. For law to vindicate the interests that these ecological effects touch, it is not enough for courts to balance the competing common law claims of owners and potential owners. Instead, legislatures must impose collective judgments about which interests deserve protection, and in what measure. Thus, private property moves from being an emblem of practical self-sufficiency and a touchstone of legal autonomy to being thoroughly entangled in interdependence and subject to collective regulatory judgments. This change is both a major shift in the legal landscape and a significant symbolic affront to a traditional image of self-reliance.

Moreover, the environmentalist idea that the nonhuman realm of the natural world matters for its own sake greatly expands the set of values that might limit the powers of owners. Never mind neighbors: what about all the plant and animal species that share a plot of land, and for which that land is a habitat rather than an economic resource? Once the ESA created express federal protection for what Cannon calls "the environmental other" (p. 80), sole and despotic dominion was no longer on the menu.

1. *Taking Interdependent Property.* — Exactly what ownership

²⁷ 2 WILLIAM BLACKSTONE, COMMENTARIES *2.

²⁸ See generally Carol M. Rose, *Canons of Property Talk, or, Blackstone's Anxiety*, 108 YALE L.J. 601 (1998).

meant after ecology's incomplete revolution became a constitutional flashpoint in the doctrine of takings, the Court's interpretation of the Fifth Amendment's guarantee that "private property" shall not be "taken" without "just compensation."²⁹ The question in *Lucas v. South Carolina Coastal Council*³⁰ was whether beachfront property had been "taken" within the meaning of the amendment, and its owner thus entitled to compensation, when South Carolina prohibited all construction on a certain class of barrier-island land that included Lucas's plot. The reason for the building ban was to limit erosion and storm damage by preserving the buffering function of the barrier beaches.³¹ Lucas's intended use of the property, building single-family homes,³² was precisely what property law had traditionally aimed to protect and encourage, and now suddenly prohibited instead.

Writing for the Court, Justice Scalia held that a regulation that eliminated all economically valuable use of a piece of land (as the trial court found was the case for Lucas's property³³) is a taking per se.³⁴ The effect was to impose a constitutional boundary on legislatures' power to redefine the rights of ownership in light of ecological interdependence. Justice Scalia wrote that a legislature could eliminate all economically valuable use of a piece of land and avoid the compensation requirement only if the banned use could also have been prohibited under "background principles of [a] [s]tate's law of property and nuisance already in place"³⁵ when the owner obtained the property.³⁶ In dissent, Justice Stevens objected that environmental law should be understood as expressing the ongoing moral learning of society, much as evolving common law principles had once done, and thus as changing the scope of ownership in balance with ecological concerns.³⁷ By contrast, Justice Scalia invoked a "historical compact" memorialized in the Takings Clause, which guaranteed traditional ownership against excessively intrusive redefinition.³⁸

Lucas thus reflects the view that private property retains a pre-ecological core that the Constitution shields from interference. To constitutionalize this idea ties a key aspect of the legal relationship between people and the natural world — that of ownership — to its pre-ecological origins in a world where the autonomy of owners

²⁹ U.S. CONST. amend. V.

³⁰ 505 U.S. 1003.

³¹ See *id.* at 1008–09, 1008 n.1.

³² *Id.* at 1008.

³³ *Id.* at 1009.

³⁴ See *id.*

³⁵ *Id.* at 1029.

³⁶ See *id.* at 1027–30.

³⁷ See *id.* at 1069–70 (Stevens, J., dissenting).

³⁸ See *id.* at 1028 (majority opinion).

seemed intuitive in a way that ecological interdependence confounds.

2. *Statutory Interpretation and Ecological Ownership.* — In *Babbitt v. Sweet Home Chapter of Communities for a Great Oregon*,³⁹ the Court again asked how far environmental lawmaking could revise traditional ownership.⁴⁰ Here the issue lay in interpretation of the ESA, which forbids anyone, including private parties, to “take” a member of an endangered species.⁴¹ The statute defined “take” to include “harm[ing]” a member of the species;⁴² and the Department of the Interior, in turn, defined “harm” to include “significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.”⁴³ The question in *Sweet Home* was whether the statute’s language supported the regulatory definition of “harm” as including habitat modification.⁴⁴

The Court upheld the relatively expansive agency definition of “harm” over a strong dissent from Justice Scalia.⁴⁵ For Justice Scalia, the heart of the matter was the traditional sense of the term “take,” which connoted using direct force against, or seizing control of, an individual animal.⁴⁶ From this conservative, textualist position, no amount of ecological interconnection could expand that older sense of the word to include effects on an animal that were mediated through effects on its habitat: cutting trees in ways that impeded breeding or nesting was not at all the same thing as “taking” an animal. By contrast, the Court, in an opinion by Justice Stevens, hung its decision on the term “harm” in the statutory definition of “take,” arguing that harm may be indirect as well as direct, and that treating habitat degradation as a form of indirect harm advanced one of the ESA’s core purposes — the preservation of ecosystems on which endangered species rely.⁴⁷

Like the conservative view in the standing cases, Justice Scalia’s position in *Sweet Home* would have tethered a tract of law to a pre-ecological idea of causation. The dissent would have restricted the prohibition of land-use decisions to acts of individual-to-individual violence, such as hunting or trapping a member of a protected species. A pre-ecological interpretation of a key operative term would have significantly weakened the statute’s prohibition of harms arising from

³⁹ 515 U.S. 687 (1995).

⁴⁰ *Id.*

⁴¹ 16 U.S.C. § 1538(a)(1)(B) (2012).

⁴² *Id.* § 1532(19).

⁴³ 50 C.F.R. § 17.3 (2013).

⁴⁴ *See* 515 U.S. at 690.

⁴⁵ *Id.* at 708.

⁴⁶ *See id.* at 717–18 (Scalia, J., dissenting).

⁴⁷ *Id.* at 697–702 (majority opinion).

ecological interdependence.

Moreover, like his interpretation of the Takings Clause in *Lucas*, Justice Scalia's *Sweet Home* dissent would have shielded traditional economic expectations against collective, political revision launched in the name of ecological protection. Justice Scalia interpreted the ESA as envisioning the protection of privately owned habitats mainly through federal purchase — that is, the government could protect habitat not by revising the rights of owners, but by acquiring their ownership rights on the market.⁴⁸ This approach would secure private ownership against undermining by ecological interdependence: precisely as with takings, a government that wanted to change landowners' powers would have to purchase the rights to the land. The turn to collective regulation that ecological interdependence implied could take place only with a price tag dictated by pre-ecological ownership.

C. NEPA as an Emblem of an Incomplete Revolution

One statute's interpretation serves as a kind of synecdoche for the last four decades of environmental law. NEPA, which became law in 1970, contains a series of substantive directives for all federal policy: among others, to “fulfill the responsibilities of each generation as trustee of the environment for succeeding generations”; “assure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings”; “attain the widest range of beneficial uses of the environment without degradation”; and “maintain, wherever possible, an environment which supports diversity and variety of individual choice.”⁴⁹ Cannon calls the statute's substantive language “a succinct, compelling articulation of the NEP [new environmental paradigm]” (p. 235). As he points out, Professor Lynton Caldwell, the chief intellectual architect of NEPA, regarded it as a statement of a new public policy based on principles of interdependence and cooperation (p. 236).⁵⁰ Some federal courts seemed poised to move in the same direction, indicating new sympathy for ecological values. As Judge Wright wrote in the landmark *Calvert Cliffs' Coordinating Committee, Inc. v. United States Atomic Energy Commission*,⁵¹ the courts should expect “a flood of . . . litigation seeking judicial assistance in protecting our natural environment . . . to control, at long last, the destructive engine of material ‘progress.’”⁵² The judicial mood that Judge Wright

⁴⁸ See *id.* at 727–29 (Scalia, J., dissenting).

⁴⁹ 42 U.S.C. § 4331(b) (2012).

⁵⁰ See also LYNTON K. CALDWELL, ENVIRONMENT: A CHALLENGE FOR MODERN SOCIETY 237–39 (1970) (calling for more integration of an “ecological” way of thinking into an “economic” mode that “ma[d]e nature serve man's material needs,” *id.* at 237).

⁵¹ 449 F.2d 1109 (D.C. Cir. 1971).

⁵² *Id.* at 1111.

expressed also appeared in dissents by Justices Douglas and Blackmun in the seminal environmental-standing case *Sierra Club v. Morton*,⁵³ in which the two Justices assumed, respectively, that environmentalists were self-evidently the trustees and spokespersons of the natural world,⁵⁴ and that well-established environmental groups spoke for an unproblematic public interest in conservation.⁵⁵ Just as the federal judiciary had recently played a crucial role in the battle over desegregation, so it now seemed possible that it would lead in the development of a substantive common law of national environmental priorities.

Events played out differently. In a series of decisions, the Justices went out of their way to indicate that reviewing courts were not to use NEPA's substantive language as a basis for assessing agency decisions: the statute was purely procedural.⁵⁶ Cannon suggests that this way of reading NEPA may have reflected the Justices' own positions within the American division between the ecological and pre-ecological paradigms (p. 272). Making NEPA a purely procedural statute kept a place at the table for the values of the ecological outlook, but declined to give those values any special authority (pp. 265–67).

NEPA, then, is a microcosm of where ecological values stand in law: enduringly part of the mix, but frequently shunted to the side. The partial revolution that brought the ecological outlook into American culture, politics, and law remains incomplete and contested. The ecological revolution has inspired many acts of judicial creativity that stitch its new premises and concerns into the law's old conceptual fabric, notably Justice Stevens's treatment of standing in *Massachusetts v. EPA*⁵⁷ and Justice Kennedy's discussion of the ecological "nexus" of federal Clean Water Act jurisdiction in *Rapanos v. United States*.⁵⁸ However, judicial interpretation has more often restricted the influence of the ecological revolution and left much of the legal system committed to autonomy, mastery, and the exploitation of the natural world, rather than developing a countervailing program of interdependence, cooperation, and caretaking.

III. A WAY BEYOND DIVISION?

⁵³ 405 U.S. 727 (1972).

⁵⁴ See *id.* at 743–45 (Douglas, J., dissenting).

⁵⁵ See *id.* at 758–60 (Blackmun, J., dissenting).

⁵⁶ See, e.g., *Kleppe v. Sierra Club*, 427 U.S. 390, 410 n.21 (1976) ("The only role for a court is to insure that the agency has taken a 'hard look' at environmental consequences; it cannot 'interject itself within the area of discretion of the executive as to the choice of the action to be taken.'" (quoting *Nat. Res. Def. Council, Inc. v. Morton*, 458 F.2d 827, 838 (D.C. Cir. 1972))).

⁵⁷ 549 U.S. 497, 516–26 (2007).

⁵⁸ 547 U.S. 715, 782–87 (2006) (Kennedy, J., concurring in the judgment).

A certain modesty is very basic to Cannon's intellectual style. His claims advance with careful qualifications on their flanks, and his conclusions are on balance rather than categorical. This attitude serves him well in the bulk of the book, where his close readings of Supreme Court decisions in their cultural contexts benefit from a sure hand and careful eye. It is invaluable to revisit these cases with a guide who combines the precision of a veteran lawyer with the sensitivity to trope and implication of a literary critic. Nonetheless, one wants more.

A. Cannon's "Environmentalism Futures"

When Cannon comes to the concluding big-picture assessment that seems to be mandatory in books on law and politics, his careful style immunizes him from overreach, but also seems to inhibit him from saying all that he might have. For more than a decade, a polemical contest has been afoot to account for environmentalism's political stall. Some have argued that the movement has lost its fire and imagination by allowing itself to become ensconced in ordinary Beltway politics as just another interest group, rather than the prophetic cultural movement it once was.⁵⁹ Others claim that political environmentalism is a victim of its own success: pollution controls and other political victories have reduced the sense of crisis that fired calls for basic change.⁶⁰ Still others argue that environmentalism's brief flush of political victory created an illusion of consensus, when in fact the "dominant social paradigm" of human autonomy and mastery over a bountiful world remained deep seated and powerful: its adherents struck back no later than the first Sagebrush Rebellion of antiregulation Westerners in the 1970s, and were buoyed by their alliance with the Reaganite New Right and its Tea Party successors.⁶¹ Cannon is most convinced by the third interpretation, focused on deep-seated cultural conflict (pp. 7–10, 13–19), and least by the first, which treats Beltway politics as cause rather than symptom of environmentalism's post-prophetic period (pp. 275–77); but, in his even-handed style, he allows some weight to each.

⁵⁹ See, e.g., Cary Coglianese, *Social Movements, Law, and Society: The Institutionalization of the Environmental Movement*, 150 U. PA. L. REV. 85, 102 (2001) ("Environmentalism had matured from a social movement to an extensive network of interest group organizations with a presence in Washington, D.C., like that of any other political lobby."); James Gustave Speth, *The Case for a New American Environmentalism*, 39 ENVTL. L. REP. 10066, 10067 (2009) (describing the current state of the environmental movement as "pragmatic and incrementalist").

⁶⁰ See Coglianese, *supra* note 59, at 113–14. The arguments are not mutually exclusive, and Coglianese, like Cannon, finds room for both.

⁶¹ See Purdy, *American Natures*, *supra* note 17, at 223–24. This culturally focused story of populist mobilization should be augmented by attention to a key institutional development: the move of American business from a broad acceptance of regulation as legitimate and even advantageous to an antiregulatory program advanced by, among others, lobbyists and think tanks. I incorporate this shift into a history of environmental law in the last quarter of the twentieth century in Purdy, *Our Place in the World*, *supra* note 17.

Cannon's prescriptions are constructive and tentative. He is interested mostly in the ways that new problems and solutions might shift the cultural politics of environmentalism, creating space for new political coalitions (pp. 286–87). He notes the rise of market-modeled regulatory schemes, most visibly carbon markets, and the role of private enterprise in environmental initiatives, from nonprofit certifying groups such as the Forest Stewardship Council to Wal-Mart, which has adopted a series of environment-friendly sourcing policies (pp. 288–92).⁶² The “greening” of business culture and “marketizing” of environmental policy might combine to bridge the cultural gap between long-standing probusiness, pro-property attitudes and the newer emphasis on interdependence and ecological caretaking. So might the rise of a new strain of what one could call promastery environmentalism, which embraces technology such as carbon capture and geoengineering and is enthusiastic about the human role in shaping the world (pp. 292–95).⁶³ The claim of this school of thought is that human impact on the planet is so vast and irreversible that people must give up misgivings about their world-shaping power if they are to use it well (p. 293). Promastery environmentalism has room for traditional images of human agency and the resilience of nature, but also embraces the environmentalist idea that people must be conscious caretakers of an interdependent world (p. 293). With characteristic balance, Cannon sees promise in the developments, but warns against abandoning the more radical strains of the ecological outlook, especially its romantic responsiveness to the beauty and sublimity of the natural world and its commitment to the intrinsic value of nature (pp. 296–98). These attitudes may be hard to defend in a rulemaking hearing or a venture capital presentation, but they have been politically and culturally productive before, and there is no reason to assume they are exhausted now.

These careful claims are quite consistent with the book's topic and method, as well as Cannon's own style. His main concern is to read Supreme Court opinions as special instances of a broader set of cultural and political divisions, in order to understand how those divisions are contributing to the development of law. Thus, at its core this is a diagnostic rather than prescriptive book. That is not to say that

⁶² See generally Michael P. Vandenbergh, *Private Environmental Governance*, 99 CORNELL L. REV. 129 (2013) (discussing the role of private organizations and for-profit businesses in environmental policy innovation).

⁶³ See, e.g., Peter Kareiva et al., *Conservation in the Anthropocene: Beyond Solitude and Fragility*, THE BREAKTHROUGH (Winter 2012), <http://thebreakthrough.org/index.php/journal/past-issues/issue-2/conservation-in-the-anthropocene> [<http://perma.cc/B8Q8-WQX2>] (“Conservation should seek to support and inform the right kind of development — development by design, done with the importance of nature to thriving economies foremost in mind.”).

Cannon should stand up from his careful interpretive work and announce that he has found a key to the future of environmental politics. No key to any area of politics is likely to emerge directly from a close reading of Supreme Court opinions.

Having said that, it would still have been interesting to see Cannon set his interpretive arguments within a broader historical and analytic frame. There is more to say about both the long trajectory of environmental politics and its contemporary prospects. Cannon prepares us for these questions with a rich picture of judicial disagreement in our own moment, but his excellent book does not quite carry its readers across the threshold.

B. Why Cultural Division Is So Interesting Today

Cannon's project responds to a specific constellation of forces in environmental lawmaking. Political deadlock has prevented passage of significant new environmental legislation since the 1990 amendments to the Clean Air Act. Environmental lawmaking for twenty-five years has happened, not on the clean slate of legislative drafting, but on the ever-denser palimpsest where existing statutes are interpreted. The action has accordingly moved away from movements and legislatures, which dominated the field during environmental law's rise in the 1970s, in favor of agencies and courts. The central role of agencies accounts for much of the prominence that cost-benefit analysis has gained in environmental law and scholarship: whereas legislators establish authoritative values, regulators implement and prioritize among values already established. In doing so, they naturally seek the appearance of neutral and technical decisionmaking, to avoid creating the impression that they are acting (reluctantly or otherwise) as a second phalanx of legislators, choosing values on behalf of the public.⁶⁴

The courts join the agencies as the major environmental lawmakers of the age. Whether the Clean Water Act allows for cost-benefit-based interpretations of its technology standards, or whether the Clean Air Act extends to greenhouse gas emissions, are interpretive questions that dictate substantive policy on these environmental questions in the absence of new legislation.⁶⁵ To state the obvious, the statutes do not explicitly resolve these questions, and so judges' interpretations become central. In this situation, there is much to learn from Cannon's sophisticated, culturally focused version of legal realism. What

⁶⁴ I develop this argument in more detail in Purdy, *Our Place in the World*, *supra* note 17, at 877–83.

⁶⁵ *See, e.g.*, *Entergy Corp. v. Riverkeeper, Inc.*, 556 U.S. 208, 226–27 (2009) (finding some permission for cost-benefit consideration in agency implementation of the Clean Water Act's technology-based standards); *Massachusetts v. EPA*, 549 U.S. 497, 532 (2007) (finding that the Clean Air Act's definition of "pollutant" extends to greenhouse gas emissions).

determines a court's decisions, if not the text of the statute? Cannon makes a strong case that, often, the driver is the cultural valence of the environmental problem at issue: the judge's image of the natural world, both moral and material, and the corresponding image of the human place in the world. The reason that the New Environmental Paradigm and the Dominant Social Paradigm grapple for control in the *United States Reports* is not some diffuse zeitgeist: it is a matter of which institutions can get anything done today (courts and agencies), which institutions cannot (legislatures), and which tools and techniques available to the former institutions remain active (interpretation of statutes and the Constitution).

This is why students of public law may have detected a similarity between Cannon's style of argument and that of certain constitutional scholars who study the ways that popular ideas of liberty and equality interact with the text of the Constitution, giving new and ever-contested meaning to old terms that, to speak literally, hardly ever change.⁶⁶ This is the pattern of cultural and legal struggle when ever-changing politics and concrete problems are governed by rules and principles embodied in static text. Cannon's scholarship, like that of his fellow culturalists and movement theorists in constitutional law, helps both scholars and practitioners to understand the complex ways in which law can serve as connective tissue between widely held values and beliefs, on the one hand, and the institutional operations of power, on the other. Reading him, one recognizes oneself, or one's opponents — recognizes one's own community of conflict — in the activity of law.

C. *From Holocene Thought to Anthropocene Politics*

This, then, is the situation in which Cannon's work finds its force and appeal. It is also, however, a situation that has to change. Both the New Environmental Paradigm and the Dominant Social Paradigm are products of what the future will think of as *Holocene Culture*. That is, they are products of an anomalous ten-thousand-year blink in the eye of geological time, in which relatively stable climate patterns made the planet extraordinarily congenial to human habitation: above all, consistent and temperate weather permitted agriculture to flourish

⁶⁶ See, e.g., Robert Post & Reva Siegel, *Roe Rage: Democratic Constitutionalism and Backlash*, 42 HARV. C.R.-C.L. L. REV. 373 (2007) (exploring the relationship between popular political movements and constitutional interpretation); Reva B. Siegel, *The Supreme Court, 2007 Term — Comment: Dead or Alive: Originalism as Popular Constitutionalism in Heller*, 122 HARV. L. REV. 191 (2008) (same); see also Jack M. Balkin, *How Social Movements Change (or Fail to Change) the Constitution: The Case of the New Departure*, 39 SUFFOLK U. L. REV. 27 (2005); Tomiko Brown-Nagin, *Elites, Social Movements, and the Law: The Case of Affirmative Action*, 105 COLUM. L. REV. 1436 (2005); William N. Eskridge, Jr., *Some Effects of Identity-Based Social Movements on Constitutional Law in the Twentieth Century*, 100 MICH. L. REV. 2062 (2002).

long enough that farming societies produced urban, imperial, and technological civilization, eventually reaching the momentum that today's globally networked world continues to extend.

The difficulty is that the vast industrial and fossil fuel economy that Holocene stability fostered has, in turn, undone the Holocene. Human pressure on the planet's systems has ushered in what commentators call the *Anthropocene*, the geological age of humanity. The defining feature of the Anthropocene — whose official status is under consideration at the time of writing by the Stratigraphy Commission of the Geological Society of London,⁶⁷ which formally designates geological eras — is that human activity has become a force, arguably *the* force, in the development of the planet. The signal Anthropocene phenomenon is global climate change driven by changing atmospheric chemistry. Mass extinction, disruptions in the nitrogen cycle, and global toxicity count toward the Anthropocene as well.⁶⁸

In what sense are Cannon's ecological and pre-ecological paradigms products of Holocene thought? To understand this, it helps to appreciate two distinct bases for calling our time the beginning of the Age of Humanity. The first and more straightforward is the *Anthropocene Condition*, the situation in which human action has changed every place, species, and system of the natural world, from the upper atmosphere to the deep sea. The Anthropocene, in this sense, is the time in which there is no longer any such thing as "nature" that is apart from and prior to human beings: all the world is a joint product of human activity and underlying nonhuman phenomena, blended in patterns from which the two can no longer be separated. The second and less straightforward is the *Anthropocene Insight*, which recognizes that discussions about "nature" have always been less a description of the natural world than a means for humans to talk to and about other humans.

1. *Anthropocene Disruptions.* — The Anthropocene Condition undercuts key premises of both the Dominant Social Paradigm and the New Environmental Paradigm. The pre-ecological vision of the world as a stable and resilient storehouse of resources for human use is a cosmological narration of Holocene life. It generalizes from a very

⁶⁷ See Working Group on the "Anthropocene," SUBCOMMISSION ON QUATERNARY STRATIGRAPHY, <http://quaternary.stratigraphy.org/workinggroups/anthropocene> [<http://perma.cc/GS4A-WXZM>].

⁶⁸ See, e.g., Dipesh Chakrabarty, *The Climate of History: Four Theses*, 35 CRITICAL INQUIRY 197 (2009) (arguing for the relevance of the Anthropocene for social theory and historiography); Will Steffen et al., *The Anthropocene: From Global Change to Planetary Stewardship*, 40 AMBIO 739 (2011) (setting out extent of human impact on the planet); cf. Jedediah Purdy, *Anthropocene Fever*, AEON MAG. (Mar. 31, 2015), <https://aeon.co/essays/should-we-be-suspicious-of-the-anthropocene-idea> [<http://perma.cc/V2DT-Q4U9>] (exploring the cultural sources and multiple meanings of the Anthropocene).

particular historical experience, of a world not catastrophically perturbed by either natural or human phenomena, and so able to serve as a reliable substrate of human projects. It may once have been true that the world was, for many purposes, stable and bountiful; but in an age of massive human-induced change, which is already disrupting human life with droughts and superstorms, the premise of benign stability cannot hold.

The new ecological worldview, by contrast, insists that the world is fragile, endangered, and interdependent. Thus far, it seems promising as a framework for the Anthropocene. But there is a problem. Modern environmentalism has relied at a very basic level on the idea of *nature*: a picture of the world as it was, or would be, absent human intervention. Such an idea is the basis of two features of the ecological outlook that Cannon aptly identifies: the intrinsic value of natural things (p. 14), and the principle that humans should live in harmony with the natural world (p. 19). Without a nature that is independent of human beings, what is it, exactly, that has intrinsic value? What is the natural order with which humans should seek harmony? These basic commitments of the ecological outlook require a baseline idea of nature, of what the natural world is apart from human action. If human action is part of what creates the world, how can the character of the world guide human action?

The second paradigm-arresting aspect of the Anthropocene is the Anthropocene Insight. This is the recognition that talk of “nature” has always been, in fact, a way for people to talk to and about other human beings. Thus nature has been invoked to support both economic development and environmental preservation, liberty and slavery, democracy and monarchy, the hierarchy of the sexes and their equality, and so forth.⁶⁹ In light of this insight, it simply is not credible to imagine the natural world as supporting any particular human agenda, whether development and extraction or preservation and aesthetic appreciation. The world does not impart moral status to human projects. In order to imagine a world that could do so, one must already be in the grip of a human interpretation of the natural world that braids its phenomena with judgments and projects that can come only from people.⁷⁰

It might seem that the Anthropocene Insight would be especially damaging to the ecological paradigm, with its openly moralized view of harmonious nature; however, the pre-ecological, anthropocentric

⁶⁹ I present this argument in detail in JEDEDIAH PURDY, *AFTER NATURE: A POLITICS FOR THE ANTHROPOCENE* 11–17, 31–45 (2015).

⁷⁰ The canonical statement of this argument comes in JOHN STUART MILL, *Nature*, in *THREE ESSAYS ON RELIGION* 3, 62–64 (1874) (arguing that nature can have no moral significance other than what people impart to it).

view of the natural world is also deeply moralized, only in ways that are less evident because they are camouflaged as common sense. The development-oriented idea that nature is the supportive substrate of market capitalism arose in integral connection with the American civic religions of natural rights and Manifest Destiny.⁷¹ A natural world portrayed as calling out for labor, clearing, and settlement supported the egalitarian individualism (among white men) of the early American republic and the bloody clearing of Native Americans, who allegedly failed to fulfill their natural duty to make the continent productive.⁷² The history of talk about the natural world is thoroughly a history of its moralization. Environmentalism is only the latest example — one that strikes the contemporary ear as having special moral concern for “nature.”

Combined, the Anthropocene Condition and Anthropocene Insight imply a world that is the joint product of human activity and nonhuman processes, and in which human activity inevitably reflects human judgments and priorities. There is no “pattern of nature” that can tell us, for instance, how to organize an economy or direct research into new technologies.

2. *Law’s Special Role in the Anthropocene.* — Law plays a special role in the joint human-natural production of the Anthropocene world. Human activity is a kind of collective landscape architecture: by the ways we get food and shelter and propel ourselves from place to place, we quite literally shape the planet, from its soils and terrain to its atmospheric and oceanic chemistry. The legal framework guides and shapes this world-forming activity in many ways, including through energy policy, agricultural policy, transport systems, zoning, pollution laws, wilderness and parks preservation, and so forth. Laws, in turn, express the worldviews of those who make them, reflecting their priorities, dislikes, and points of indifference.⁷³ So nineteenth-century American law helped to produce an army of citizens who cleared, settled, and developed the continent across a moving frontier, leaving in their wake the checkerboard pattern of roads and fields still visible from airplanes over the Midwest. So the zoning laws of the twentieth century, combined with fuel policy and highway construction, produced the landscape of suburbs, exurbs, and commercial and

⁷¹ See PURDY, *supra* note 69, at 70–95 (exploring this episode and its persistent influence in American environmental politics and imagination).

⁷² See 3 JAMES KENT, COMMENTARIES ON AMERICAN LAW 533–45 (13th ed. 1884); JAMES TULLY, AN APPROACH TO POLITICAL PHILOSOPHY: LOCKE IN CONTEXTS 137–76 (1993) (describing the reception and use of natural-law theory with respect to Native American land claims).

⁷³ See, e.g., JAMES WILLARD HURST, LAW AND THE CONDITIONS OF FREEDOM IN THE NINETEENTH-CENTURY UNITED STATES 9–10 (1956) (arguing that the design of federal settlement policy channeled human energy in the interest of development).

industrial zones where most Americans live today.⁷⁴ So our legally structured energy economy is producing the global atmosphere of the twenty-first century, and thus the climate in which everyone does and will live.

The Anthropocene is not mainly a theoretical conceit, but rather a theoretical distillation of concrete circumstances. These circumstances show up in very specific ways. There is no “natural” baseline for climate change goals, no principled way of distinguishing between “natural” and “anthropogenic” climate change — which was part of the motive for Chief Justice Roberts’s argument in *Massachusetts v. EPA* that climate change is incompatible with traditional legal ideas of causation and redress.⁷⁵ Species conservation efforts inevitably involve some level of choice between those things that are to be saved and those that will be allowed to perish, choices that draw on and impose human priorities among other living things.⁷⁶ Land conservancies deal almost invariably with disrupted and transformed landscapes, leading to questions about what it is they wish to “conserve,” and why.⁷⁷ Even wilderness is a federally defined legal category requiring a series of land-use decisions that turn on judgments about what are, and what are not, wilderness values.⁷⁸

IV. POLITICS AS THE ANTHROPOCENE PIVOT

For the moment, adopting the Anthropocene mantle has affinities with a specific kind of agenda: one centered on human interests and unapologetic about actively shaping and changing the natural setting. This is the mastery-oriented environmentalism described earlier in this Review. As Peter Kareiva, lead scientist of the Nature Conservancy, has put it:

If there is no wilderness, if nature is resilient rather than fragile . . . what should be the new vision for conservation? . . . Conservation should seek to support . . . development by design, done with the im-

⁷⁴ See, e.g., Michael P. Conzen, *Developing Large-Scale Consumer Landscapes*, in *THE MAKING OF THE AMERICAN LANDSCAPE* 423, 423–50 (Michael P. Conzen ed., 2d ed. 2010); John A. Jakle, *Paving America for the Automobile*, in *THE MAKING OF THE AMERICAN LANDSCAPE*, *supra*, at 403, 403–22.

⁷⁵ See *Massachusetts v. EPA*, 549 U.S. 497, 540–42 (2007) (Roberts, C.J., dissenting).

⁷⁶ See, e.g., J.B. Ruhl, *Climate Change and the Endangered Species Act: Building Bridges to the No-Analog Future*, 88 B.U. L. REV. 1, 12 (2008) (setting out new challenges that confront species conservation in a world disrupted by climate change).

⁷⁷ See Kareiva et al., *supra* note 63 (exploring the implications of the Anthropocene for land conservation).

⁷⁸ See, e.g., *Wilderness Soc’y v. U.S. Fish & Wildlife Serv.*, 353 F.3d 1051, 1067 (9th Cir. 2003) (en banc) (holding that a fish-stocking program is a commercial activity within the terms of the Wilderness Act and thus forbidden within a federal wilderness area).

portance of nature to thriving economies foremost in mind. . . . Instead of pursuing the protection of biodiversity for biodiversity's sake, a new conservation should seek to enhance those natural systems that benefit the widest number of people Nature could be a garden⁷⁹

The appearance of affinity between Anthropocene rhetoric and Kareiva's human-centered agenda is partly a matter of who has seized the label, and partly a result of the pre-Anthropocene language that still characterizes much of environmentalist politics. Because many environmentalists use a Holocene vocabulary that is easily made to seem philosophically naïve, their critics can score points by observing, for instance, that all ecosystems have been disrupted and that all conservation choices involve values.

That said, the idea that embracing the Anthropocene implies supporting a human-centered, managerial program mistakes a contingent affinity for an essential connection. The pivot of the mistake is a confusion between two senses in which the values that guide environmental decisions may be "human." In one sense, human values are those that people can understand, hold, and respond to — that is, they must be possible bases for evaluation and action. In the second sense, human values are restricted to some set of human interests, whether as narrow as economic growth or as broad as, say, aesthetic appreciation of nature.⁸⁰ The managerial values that certain Anthropocene enthusiasts tout are human in both senses; but it is only in the first sense that Anthropocene values *must* be human values. That is, people can take them seriously and act on them. But values that are human in this sense may include many that are not human-centered in the more substantive sense: they may include, for instance, the claims that nature matters for its own sake, that we should strive to establish and support certain kinds of harmony in natural systems, and so forth. To advance these nonanthropocentric values in a manner consistent with the Anthropocene Insight, it is simply necessary to understand that they are human values, not imposed on us by a moral logic inherent in

the natural world, and that they need to be vindicated among human beings, not dictated on the basis of their "naturalness."

⁷⁹ Kareiva et al., *supra* note 63; see also Peter Kareiva et al., *Domesticated Nature: Shaping Landscapes and Ecosystems for Human Welfare*, 316 *SCIENCE* 1866, 1866–69 (2007) (advancing similar arguments); Peter Kareiva & Michelle Marvier, *Conservation for the People*, *SCI. AM.*, Oct. 2007, at 50, 50–57 (same); cf. D.T. Max, *Green Is Good*, *NEW YORKER*, May 12, 2014, at 54, 59–61 (describing Kareiva's role in the ongoing controversy over his managerial and human-oriented agenda).

⁸⁰ See BERNARD WILLIAMS, *Must a Concern for the Environment Be Centred on Human Beings?*, in *MAKING SENSE OF HUMANITY* 233, 234 (1995) (drawing the contrast between values centered on human interests and values available for human belief).

A. *Markets, Technocracy, or Democracy?*

The real question is how the relevant human values will be determined and implemented: which decision procedure will guide collective judgments about what sort of world to shape? In effect, there are only a few alternatives. First, the decision can be *marketized*, that is, coordinated by the price mechanism, which links billions of spending, investment, and production choices in a single pattern of resource allocation.⁸¹ In a second alternative, the decision can be made *technocratically*, by specifying a form of expert technique to generate an ostensibly neutral best result.⁸² Or, in the third alternative, the decision can be made *democratically*, through public contest over the meaning of the natural world and the human place in it.⁸³

Markets and technocracy have their respective advantages, but they are also profoundly unsuited to the task of deciding how to shape a world. Democracy is the only decision procedure adequate to the problem but, inconveniently, is also the most difficult to achieve. Let us take the three in order.

1. *The Limits of Markets.* — Markets are highly efficient in aggregating and transmitting the local knowledge contained in decentralized economic decisions. For instance, a judgment about whether to install copper or ceramic tile in a kitchen in San Francisco incorporates everything from the intensification of demand caused by the advent of new energy technologies using the metal to the risk to supply caused by the threat of political instability in copper-mining regions — all through the supple instrument of price, so that the purchaser need not know any of the qualitative detail. Markets also have notorious limitations: they do not take account of unpriced externalities (a problem at the base of much of environmental economics), and they process only the priorities of those who have spending power, meaning that they reflect rather than resist structural inequalities in wealth — for instance, in producing research into baldness rather than into the diseases of global poverty.⁸⁴ But the most basic limitation of markets for the Anthropocene question — the

⁸¹ See, e.g., PAUL HAWKEN ET AL., *NATURAL CAPITALISM* (1999) (arguing for a merger of free-market and ecological thinking); James Salzman, Review Essay, *Valuing Ecosystem Services*, 24 *ECOLOGY L.Q.* 887 (1997) (setting out the development and prospects of ecosystem services, a key concept in unifying ecological management and market valuations).

⁸² See, e.g., STEPHEN BREYER, *BREAKING THE VICIOUS CIRCLE* (1993) (arguing for a cost-benefit-oriented approach to environmental management); PURDY, *supra* note 69, at 153–87 (exploring historical origins and political affinities of the managerial approach).

⁸³ See, e.g., Post & Siegel, *supra* note 66; Jedediah Purdy, *The Politics of Nature: Climate Change, Environmental Law, and Democracy*, 119 *YALE L.J.* 1122 (2010) (describing central role of democratic initiative and conflict in environmental lawmaking).

⁸⁴ See Barton H. Thompson, Jr., *What Good Is Economics?*, 37 *U.C. DAVIS L. REV.* 175 (2003) (setting out and applying key features of economics and its uses in environmental policy).

question of what sort of world to create — is that markets operate only within the legal systems that establish their frameworks: for instance, laws dictate what may be owned, what one may do with it, who owns what at the outset, how redistribution is managed, which sorts of public goods are provided and how, and so forth.⁸⁵ In a basic sense, markets are derivative of law, and therefore derivative of the political decisions that generate and enforce law.

This point is common to legal realists and sophisticated mainstream economists alike. It need not weigh against entrusting any particular area of economic life to market coordination. It does, however, mean that the world a market will make is a function of the prior choices that constitute that market — to give a signal and simple example, whether carbon emissions have a price, and how it is determined. Answers to the Anthropocene question come from political and legal choices that give a market its shape, not the decisions that take place within the market. Changes within a given market, rather than changes to the economic order itself, will always make their difference only on the margin. For instance, personal or corporate decisions to purchase voluntary carbon credits will produce some supply of those (as long as they are legally recognized), but not at the systemic scale of an economy-wide price for carbon. Similarly, a trend toward buying sustainably produced food will raise prices and production levels, but in a way that differentiates the market into sustainable and nonsustainable segments (the latter increasingly attractive to those who must, or happen to, prize affordability) rather than pivot the system as a whole.

World-making choices, then, must take place at the scale of system design, not merely within an existing price system. To speak of entrusting environmental decisions to a “complete” market, one that prices all environmental effects of every action, is itself an incomplete answer. The internal workings of a market cannot provide that market its own prices, except in a way that is derivative of the foundational legal and political choices that constitute that market in the first place. A market is an instrument of world-making policy, not its source.

2. *The Limits of Technocracy.* — Technocratic decisions have a parallel limitation. On the one hand, they benefit (at least notionally) from associations with expertise and neutrality: ideally, they purify key public decisions of the distortions that notoriously accompany politics, such as factional selfishness, emotional projection and other forms of irrationality, and the shifting and provisional character of nominal

⁸⁵ See, e.g., Amartya Sen, *The Moral Standing of the Market*, in *ETHICS AND ECONOMICS* 1 (Ellen Frankel Paul et al. eds., 1985).

majorities.⁸⁶ On the other hand, if technocratic decisions are to be perceived as legitimate, they must implement values that have already been established as authoritative. (Otherwise, technocracy would be merely authoritarian.) If these values do not come from previously enacted laws, then they typically come from efforts to measure the interests and preferences of present and (at a discount) future individuals.⁸⁷ When technocracy takes its values from previous legislation or other political acts, it derives its legitimacy from the sovereign polity; when it takes its values from measurements of interests and preferences, it acts as a sort of ideal market.

The latter kinds of measurements depend on various judgments that cannot be justified on internal, technocratic grounds. These include decisions about the technical aspects of measurement such as (but by no means exclusive to) the discount rate for the interest of future generations. They also depend, for their raw data, on the existing interests and preferences that people have.⁸⁸ These judgments, interests, and preferences, in turn, are products of the present: people wish for the kinds of things they know to desire (who now longs for a sight of the extinct North American ground sloth?), and the measurement of their interests and preferences reflects a current technical consensus that can command a modicum of political legitimacy.⁸⁹ In other words, technocratic decisions are ideally suited to the rationalization of the world as it is, and the refined expression of priorities as they are now understood; but they are no way to choose a world.

Like the market, then, technocratic environmental governance is an incomplete response to the Anthropocene question. Its judgments are derivative of politically established values; of markets, actual or idealized, that depend in turn on politics for their definition and creation; and of personal values and interests that arise from and reflect the world as it has so far been created by human activity. Like markets, technocracy takes its bearings from politics, whether that politics is explicit in legislation or embedded in politically created market practices, landscapes, and ecosystems.

3. *The Case for Democracy.* — The alternative is to embrace a

⁸⁶ See generally, e.g., WALTER LIPPMANN, *THE PHANTOM PUBLIC* (1927) (arguing that existing majoritarian schemes of popular voting are not adequate versions of any credible conception of collective self-governance).

⁸⁷ See, e.g., MATTHEW D. ADLER, *WELL-BEING AND FAIR DISTRIBUTION* 1–56 (2012) (proposing a sophisticated form of consequentialism for the assessment of public policy).

⁸⁸ See DOUGLAS M. KYSAR, *REGULATING FROM NOWHERE* 99–119, 150–75 (2010) (arguing for the importance of procedures that make possible continued creative engagement with values, rather than simple replication of those values now in force).

⁸⁹ See DALE JAMIESON, *REASON IN A DARK TIME* 115–38 (2014) (setting out the value commitments unavoidably embedded in any effort to apply cost-benefit analysis to complex environmental problems).

fully political view of the natural world. To summarize the argument: (1) In the Anthropocene, the world we inhabit is the world we make. (2) We make the world, in turn, by the ways that we inhabit it. (3) We shape these ways, at the scale of economies and legal systems, through collective choices, via politics and law, that provide the architecture of everyday life. (4) If these choices are to extend beyond the simple reproduction of what already is and instead allow us to select the world in which we want to live, they must be political. (5) If political choices are to be legitimate, they must be democratic.

The meaning that I am giving to *democracy* here is deliberately underspecified. The preceding arguments in this Part establish that answers to the Anthropocene question — the question of what kind of world to shape — cannot be satisfactorily generated through technocratic technique or market coordination. They must come from elsewhere. If we do not defer to religious or other transcendental claims (such as the metaphysical value theory of “deep ecology”), then we must look to politics to select the values that will shape the Anthropocene. I defy anyone to bring forward an account of legitimate political answers to the Anthropocene question that is not democratic.

More specifically, democracy has several roles to play. A democratic politics of nature produces authoritative answers to collective questions: in this sense it has a *sovereign* role, the role of pivotal decisionmaking. But democracy also organically connects the agendas of collective decision with cultural experiments and innovations that create new ways of valuing the natural world, new ways of living with it, which can in turn influence the next wave of lawmaking. In this sense, democracy plays a *discursive* role, linking cultural, aesthetic, and practical essays in living with the sovereign role of shaping shared rules and institutions. A recent example of on-the-ground changes that might contribute to large-scale lawmaking is the surge of interest in the sources, quality, and environmental effects of food.⁹⁰ Another is the rise of local, regional, national, and international movement efforts to live in a low-carbon way.⁹¹ Still another is the movement to spread decentralized, renewable energy sources, particularly solar power, in ways that complement, work around, and aim to overgrow the existing energy grid. Each of these involves new ways of seeing the relationship between human activity and the natural world: food systems and energy sources come into focus, become visible, for members of these movements. Each generates new kinds of satisfaction: the pleasure of

⁹⁰ See, e.g., Purdy, *Our Place in the World*, *supra* note 17, at 905–12 (discussing the potential of the food movement to contribute to development in environmental ethics and politics).

⁹¹ See *id.* at 917–27 (discussing how low-carbon movements can impact popular politics of climate change).

working and eating in an intelligible and sustainable food web, generating the energy one uses, or getting through the day emitting a minimum amount of carbon dioxide. These ways of living, in turn, may become the basis of politics aimed at law reform: alternative versions of the Farm Bill, support for a new kind of electric grid, and so forth.

Although these examples are current, the pattern they describe has been around for a very long time. The modern system of national parks and wilderness, for example, owes much to cultural minorities of trekkers and sporting enthusiasts such as the early Sierra Club and the Boone and Crockett Club, which cultivated romantic satisfaction in nature.⁹² These earlier movements turned their own modes of engaging nature from eccentric pleasures into national priorities, a part of the larger culture and, soon enough, lawmaking.

B. Caveat: Politics in a Time of Political Failure

This case for democracy is optimistic about the key role that the democratic process could play in choosing future worlds. It must be said that there is also plenty of cause for pessimism. Few today would turn to democratic politics to solve contentious and contested social problems. Democracy has been in crisis (or, perhaps more accurately, crises). In the United States, elections are awash in money,⁹³ and recent governments have produced gridlock, unpopular — and arguably fruitless — wars, and, tellingly, no meaningful legislation on climate change, the signal environmental problem of the day. In Europe, established parties are collapsing electorally, while the major joint project of the region's democracies, the European Union, is experiencing a crisis of legitimacy.⁹⁴ In the former Soviet bloc, a transition to nominal democracy, once welcomed in a sanguine mood, now looks like the watershed of a new kind of (more or less) soft authoritarianism.⁹⁵ Even democracy's place as the only acceptable standard of political legitimacy is in doubt: China's nondemocratic regime and its supporters

⁹² See PURDY, *supra* note 69, at 180–86 (on the Boone and Crockett Club); Purdy, *supra* note 83, at 1147–49 (on the Sierra Club).

⁹³ The Center for Responsive Politics estimates the cost of national elections in 2012 at over \$6 billion, the most expensive ever. See *The Money Behind the Elections*, CTR. FOR RESPONSIVE POLITICS, <https://www.opensecrets.org/bigpicture> [<http://perma.cc/5ZB6-4KUV>].

⁹⁴ See Tony Barber, *Europe Must Confront Crisis of Legitimacy*, FIN. TIMES (Apr. 23, 2012, 5:13 PM), <http://www.ft.com/cms/s/0/4e2c793c-8d50-11e1-8b49-00144feab49a.html> (warning of a “potentially far-reaching crisis of legitimacy in Europe’s political system”); Steven Erlanger, *As Europe’s Political Landscape Shifts, Two-Party System Fades*, N.Y. TIMES (Apr. 7, 2015), <http://www.nytimes.com/2015/04/08/world/europe/as-european-voting-fragments-days-of-single-party-rule-fade.html> (“The fragmentation of traditional party voting is increasing all over Europe. . . . The days of a ‘broad church’ party and governments formed by a single party are fading.”).

⁹⁵ See Perry Anderson, *Russia’s Managed Democracy*, LONDON REV. BOOKS, Jan. 25, 2007, at 3, 3–12 (summarizing scholarship on Russia’s post-Soviet governance).

show a new boldness in criticizing Western democracy as a weak, ineffective system.⁹⁶

Even if some of these problems turn out to be no more than the passing crises of the day, there are more basic structural challenges. So far as democracy can be said to have succeeded, it has succeeded on the scale of nations and their subjurisdictions, such as states and towns. It has also, perhaps less obviously, had its own temporal scale: it is a political system run by and chiefly for the living. But, notoriously, climate change and other environmental crises outrun those scales; they are global and very long term.⁹⁷ They also outrun familiar habits of moral and prudential judgment: their lines of cause and effect, responsibility and prevention, are obscure relative to the more palpable and immediate tasks that have formed commonsense notions of what it is to do or prevent harm, or even to act at all.⁹⁸ The very problems that increase the need for democratic engagement also make it less likely to succeed, at least as it now is.

Nor is this true only of environmental problems. The global economy of financial capitalism turns out, like global environmental problems, to outstrip political management in both scale and complexity. For this reason, Professor Thomas Piketty's 2014 bestseller, *Capital in the Twenty-First Century*, was at once an empirically rigorous exposé of markets' propensity to amplify inequality and an inadvertent meditation on the powerlessness of national political communities to do anything about it.⁹⁹ The comparison is not casual: it goes to the heart of the problem. In the Anthropocene, there is no separating economic and ecological futures. The economy is the architecture of the human activity that shapes the planet, and both now work at the global scale.

Politics, in turn, is the only way to make binding collective decisions about our shaping role. Politics is both what we need to do and what we cannot do, at least for now. The central role that judicial interpretation, and hence judicial worldview, plays in our environmental politics today is, in some measure, a symptom of this pervasive failure

⁹⁶ See, e.g., Eric X. Li, Opinion, *Why China's Political Model Is Superior*, N.Y. TIMES (Feb. 16, 2012), <http://www.nytimes.com/2012/02/16/opinion/why-chinas-political-model-is-superior.html> (arguing that American democracy is an unsustainable form of government).

⁹⁷ See, e.g., JAMIESON, *supra* note 89, at 100 (arguing for the possibility that democracy's orientation to the present makes it unable to address climate change effectively); Stephen M. Gardiner, *A Perfect Moral Storm: Climate Change, Intergenerational Ethics and the Problem of Moral Corruption*, 15 ENVTL. VALUES 397, 399–407 (2006) (setting out these arguments).

⁹⁸ See, e.g., Jon Gertner, *Why Isn't the Brain Green?*, N.Y. TIMES MAG. (Apr. 16, 2009), <http://www.nytimes.com/2009/04/19/magazine/19Science-t.html> (surveying psychological bases of failures to process climate harm as ethical harm).

⁹⁹ See THOMAS PIKETTY, *CAPITAL IN THE TWENTY-FIRST CENTURY* 1–35 (Arthur Goldhammer trans., Belknap Press of Harvard Univ. Press 2014) (summarizing findings on accelerating inequality); see also PURDY, *supra* note 69, at 17–21 (arguing in greater detail for the linked character of economic and ecological crises).

of politics.

CONCLUSION

This discussion of the Anthropocene is not intended as unfriendly criticism of Cannon. On the contrary, his interpretation of the last forty years of Supreme Court opinions takes precisely the attitude that the Anthropocene demands. The central upshot of an Anthropocene approach is that the work of environmental law — shaping a future world — must be recognized as thoroughly political. In fact, the problem of nature itself must be recognized as political through and through. Competing conceptions of the natural world and the human place in it are not alternatives to this politics (although partisans may present them as such). They are aspects of it. They are its characteristic form.

Environmental statutes crystallize these political conceptions of nature. As Cannon emphasizes, the antipollution and biodiversity statutes of the 1970s reflected the ecological premises of nature's fragility, interdependence, and inherent value, and the importance of seeking a harmonious human relation to it. This, however, is just one example. The statutes that guided settlers across the American frontier reflected just as directly the nineteenth-century ideas that became Cannon's "dominant social paradigm": an image of the natural world as demanding and rewarding development, ideally in the form of individual and family ownership and agricultural settlement.¹⁰⁰ The Wilderness Act¹⁰¹ reflects a Romantic conception of the natural world refined over decades of advocacy and eventually enshrined in the Act's definitions, preamble, and operative language.¹⁰² The organic acts of the National Park Service and the U.S. Forest Service reflect the managerial, utilitarian, and statist conception of the natural world that informed much of Theodore Roosevelt-era Progressive reform and led Roosevelt to describe conservation as a model for all his domestic policies.¹⁰³

Judicial interpretation of all these statutes involves judgments about the human relation to the natural world. As Cannon demonstrates, this interpretation recapitulates the diverse and conflicting ideas that inform the statutes. Environmental law is thus a layered and braided system of conflicting ideas of the world and how to inhab-

¹⁰⁰ See Purdy, *American Natures*, *supra* note 17, at 185–88 (setting out the nineteenth-century providential republican program's main features and ideological origins).

¹⁰¹ Pub. L. No. 88-577, 78 Stat. 890 (1964) (codified as amended at 16 U.S.C. §§ 1131–1136 (2012)).

¹⁰² See *id.*; Purdy, *American Natures*, *supra* note 17, at 205–07 (setting out the Romantic approach's features and origins).

¹⁰³ See Purdy, *American Natures*, *supra* note 17, at 189–99 (setting out the Progressive approach).

it it, some of which become authoritative for certain times and purposes. It is also a continuing contest over the image in which the world will be shaped. Understanding environmental law in this light invites the adoption and extension of Cannon's method. His method could be extended to embrace all the worldviews that have shaped environmental law, and could help make explicit the lurking fact that the political shaping of the future world is at stake.

In all of this there is the beginning of a strategy for imagining environmental futures. It is in fact the method that is implicit in Cannon's concluding meditation. This method is less a political program than a turn of mind, a way of focusing attention and energy. It is, first, skeptical toward any claim to have identified or created a master vocabulary for environmental politics, whether that is a philosophical account of the inherent value of living things or a new technique of cost-benefit analysis. Such vocabularies should always be understood as products of, and moves within, a field of contested environmental visions whose conflicts these vocabularies cannot magically resolve. Second, this attitude is keenly interested in the ways that concrete experiments in thinking and living — from the wilderness movement to the food movement to the rise of sustainable-energy activism — may adjust the relations among existing constituencies and their ideas, or even introduce entirely new ones, thus shifting the field of political possibility.

A way of thinking that built on Cannon's analysis toward an Anthropocene politics would add two additional points. A politically productive attitude should always include a keen awareness that a choice of environmental futures is inseparable from a choice of economic futures: because economic life is at the center of humans' collective shaping of the planet, there is no question of economic policy that is not also an environmental question, and no environmental question that can be resolved without corresponding economic judgments. Finally, this attitude should also include an acute awareness of the gap between the ideal of democratic decisionmaking about these linked environmental-economic questions and the reality of democracy: inefficacy, inadequate scope, the oligarchy-making role of money, and persistent failures of collective self-restraint. For the reasons developed above, an environmental politics adequate to the Anthropocene question can arise only alongside an enhanced and expanded democracy.

Cannon's method also provides a solution to the cultural problem of environmental law that opened this review: that it is boring and alienating, despite its high stakes, especially to those who are drawn to its underlying subject matter. The remedy is to excavate and trace out the many threads that tie the language of the statutes, their judicial and agency interpretation, and their constitutional housing and constraint, to vital and keenly felt ideas of the world and the human place in it. It is to bring environmental law alive simply by showing that it is already alive: deeply imbued with moral and aesthetic conceptions

of the living world that are also human, political choices that courts, legislatures, agencies, and social movements will continue making into the future.

Recovering environmental law from a certain technocratic narrowness required an extraordinary suite of talents: a lawyer's eye and a poet's ear, a mature judgment about the meaning of decisions married to a youthful enthusiasm for the ideals that pulse behind the technical dispositions. It took a rare mind to write this book. Everyone who cares about environmental law should be grateful to Jonathan Cannon for doing it.