
HAVE WE GLIMPSED THE
ENVIRONMENTALIST FUTURE AT PARIS? —
TOWARD A THEORY OF CHANGE

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In *Environment in the Balance*, I trace a story of competition among cultural values in our environmental choices, with particular focus on the Supreme Court's environmental decisions.¹ Having diagnosed a cultural stalemate affecting our response to environmental issues, in the book's last chapter I inventory a range of innovative gestures that might lead the environmental movement in new, more productive directions without abandoning the commitments that have given the movement its distinctive voice.² This treatment of environmentalist futures is suggestive only, and Professor Jedediah Purdy's review takes me gently to task for not offering a historically and analytically more robust account.³ My book also does little to tie the cultural currents I describe to the complex and refractory political and economic systems through which values are translated beyond the narrow purview of the Court. This essay doesn't overcome that limitation, but it takes a step to address it. Using the recent Paris Agreement⁴ on climate change as an illustration, I sketch a concept of change that incorporates cultural, political, economic, and natural systems and suggest how these systems might operate together to reshape relations between humans and the nature in which they live and of which they are a part.

In his review, Purdy offers his own vision of how we might shape our environmental future, drawing from his wonderful account in *After Nature*,⁵ published not long after my book. Purdy emphasizes that the process of choice by which we must reshape the human-nature enterprise is primarily within the domain of democratic politics.⁶ And reshaping is necessary, he argues, because the cultural sets that have animated the environmental debates of the "Holocene Culture" are no

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¹ JONATHAN Z. CANNON, *ENVIRONMENT IN THE BALANCE* (2015).

² *Id.* at 268–300.

³ Jedediah Purdy, *Coming into the Anthropocene*, 129 HARV. L. REV. 1619 (2016) (reviewing CANNON, *supra* note 1).

⁴ Framework Convention on Climate Change, *Adoption of the Paris Agreement*, U.N. Doc. FCCC/CP/2015/L.9/Rev.1 (Dec. 12, 2015), <https://unfccc.int/resource/docs/2015/cop21/eng/lo9or1.pdf> [<http://perma.cc/Y7AT-YFS7>].

⁵ JEDEDIAH PURDY, *AFTER NATURE: A POLITICS FOR THE ANTHROPOCENE* (2015).

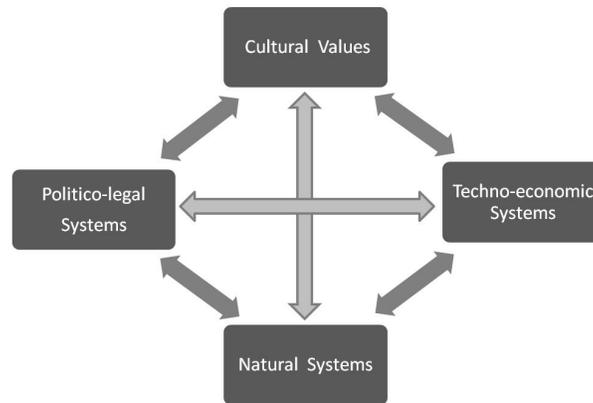
⁶ Purdy, *supra* note 3, at 1640–48.

longer apropos in the Anthropocene.⁷ Changes in our understanding of the world — our sense of the world’s limits and the lack of a foundational “nature” — make the old categories obsolete. Purdy explores new ways of valuing and inhabiting the world that might prove adequate to our new understanding and help bring it to fruition. These new expressions of the environmental imagination supply images of ideal relationships between people and the natural world that can be translated into “concrete regimes of power.”⁸ Questions remain, however, about how we might expect this translation to happen, particularly given the deep flaws in the existing political system and the inability of that flawed system to manage the techno-economic drivers that shape our impact on the planet.

In this essay I offer a model of change that integrates the main components affecting our choice of futures. The model reflects constraints on the efficacy of human deliberation, but it also holds possibilities for the kinds of change we would choose. I use this model to suggest how we might get from where we have been (a status quo inadequate to address major contemporary environmental challenges) to where we might hope to be (a world that makes room for future generations and a nature not ourselves), notwithstanding flaws in our system of collective decisionmaking that are unlikely to disappear any time soon.

The model assumes four interconnected domains or systems — values-based, politico-legal, techno-economic and natural — as illustrated in Figure 1.

FIGURE 1. THE FOUR DOMAINS AFFECTING HUMAN SHAPING OF THE ENVIRONMENT



⁷ *Id.* at 1636–40.

⁸ PURDY, *supra* note 5, at 229.

The systems are semi-autonomous but also are partially overlapping and are in continuous interaction. For example, the values domain (Purdy's "culture and consciousness"⁹) affects participation in the politico-legal world (through voting and political contributions, for example) and the techno-economic system (through consumer choices and investment decisions, for example); in return, the political and economic systems each affect the formation and evolution of cultural worldviews. The political and economic systems also interact directly with each other (private interests seeking to influence governmental decisions and political actors shaping and directing economic activity and technological development). And all of these domains are interacting with natural systems (expanding or limiting use of natural resource and processing feedback from human impacts on natural systems). These interactions create multiple inflection points for shifting the direction of the human-nature enterprise, for good or ill. One could expect that in a system this large and noisy, change would be multifaceted and largely incremental. However, the effect of multiple adjustments within and among these systems may be synergistic and capable of producing relatively dramatic shifts over short periods of time.

Taking climate change as an example, how might this complex interactive machinery produce the change that Purdy and others (I among them) believe should come? We have ample evidence of how the machinery has worked to *prevent* the change that many believe necessary for a sustainable and vital future for humans in our planetary home. The broad spatial and temporal distribution of the causes and effects of climate change make the problem particularly resistant to collective resolution. Added to this inherent difficulty are features of U.S. culture and institutions that greatly complicate a constructive political response and the absence of well-developed global governance systems.

In the United States, maladaptive cultural divisions have made climate change science into a political punching bag rather than a roadmap to enhanced well-being. The manipulation of scientific debate to advance interests and value preferences has characterized other divisive societal issues but perhaps none so pervasively as climate change. These divisions have affected the operation of the politico-legal system, which is also, as Purdy describes, rife with pathologies such as the outsized influence of wealthy individuals and well-organized economic interests.¹⁰ For its part, the techno-economic system develops and deploys technologies for appropriating nature without full accountability for the social costs, including those of carbon

⁹ *Id.* at 260.

¹⁰ *Id.* at 257-58.

emissions. It can be accountable only if politics makes it so, but political failure puts democratic control of the market — through, for example, imposition of a price on carbon — currently out of reach.

Natural systems themselves seem to conspire in this dysfunction in the case of climate change. Although physical evidence of climate change is overwhelming (rising sea levels, melting glaciers, species relocations), many of the immediately most disruptive events, such as monster storms, floods, and fires, can be connected only statistically to climate. The lack of causal attribution for these politically salient events further dampens collective enthusiasm for change.

Despite these obstacles, over the last five years the United States has adopted substantial domestic regulations to reduce domestic greenhouse gas emissions and played a leading role in bringing the world community together around the landmark Paris Agreement in 2015. Countries representing over ninety percent of global greenhouse emissions submitted “intended national reduction contributions” in advance of the agreement.¹¹ While taken together these pledges fall short of the ambition necessary to remain below the two degree ceiling on increases above pre-industrial global surface temperatures adopted by the parties, the agreement incorporates regular assessments of global action and upgrading of national commitments over time. Climate change is hardly “solved” by this agreement, and there will be many opportunities in the future for free riding and backsliding as calls for more ambitious (and costly) measures come due. But the agreement’s historic expression of global collective will on climate change is itself an event of seismic proportions. How can such a dramatic coalescence have occurred, given all the obstacles to the political choices that it faced? And how might we hope that it will survive and succeed?

As my proposed model would suggest, contributors to this change reside in all sectors (and at multiple levels within each). The paragraphs that follow show how developments in each of these sectors helped generate the momentum leading to Paris and the promise of implementation. They also show how interactivity among sectors can further motivate progressive change.

Take the U.S. politico-legal system: afflicted by deep values antagonisms and the influence of entrenched economic interests, it has proven famously unable to legislate in response to the gathering evidence of the climate change threat. But that same system opened a legal path, enabled by an expansive interpretation of the scope of existing statutory authority by a bare majority of the Supreme Court,¹² for a second-term president to lead an ambitious push on domestic climate change

¹¹ Framework Convention on Climate Change, *supra* note 4, at 3–4.

¹² See *Massachusetts v. EPA*, 549 U.S. 497 (2007).

policy. In addition to promising reductions in U.S. greenhouse gas emissions, this push enabled the United States to assume a crucial leadership role in the process that produced the Paris Agreement. The international commitment to that agreement is holding despite recent perturbations in legal review of a major component of U.S. climate change policy, the Clean Power Plan.¹³ The Paris Agreement in turn will make it more difficult for a subsequent U.S. administration to reverse course, given the political commitments of virtually all other nations to the agreement.

As Purdy recognizes, of course, developments in the politico-legal sector can have wide-ranging implications across other domains. For example, although it does not directly impose a price on carbon, the Paris Agreement is likely to have the effect of shifting global investment away from fossil fuels, particularly coal, and toward renewable energy sources — a shift that would facilitate the more ambitious future commitments anticipated by the agreement. On the first business day after the successful conclusion of the negotiations, the share price of Peabody Coal dropped thirteen percent; investors and lenders such as Bank of America have signaled reduced financial commitments to coal.¹⁴ Generally, despite its huge investment in fossil fuel use, business appears more clear-eyed and pragmatic about climate change than the U.S. Congress. Some corporations played a positive role along with nongovernmental organizations leading up to the Paris Agreement. According to Michael Bloomberg, “No CEO could survive if they tried to say climate change isn’t real.”¹⁵

The techno-economic system is notoriously blind to the climate change externalities of fossil fuel consumption, but the operation of that system also helped to pave the way for the Paris accord. Between the failure of Copenhagen and the success of Paris, this system produced dramatic advances in the efficiency and affordability of renewable energy sources. The price of solar energy dropped dramatically to narrow the competitive gap with fossil fuel alternatives.¹⁶ While clean sources have not yet achieved price parity in many existing markets, the private-sector development and commercialization of renewable options — coupled with a mix of subsidies for fossil fuels and renew-

¹³ See *Chamber of Commerce v. EPA*, 136 S. Ct. 999 (2016) (order granting stay) (granting stay of Clean Power Plan over the dissent of four Justices).

¹⁴ BANK OF AMERICA COAL POLICY, http://about.bankofamerica.com/assets/pdf/COAL_POLICY.pdf [<http://perma.cc/Y6AG-DMCB>].

¹⁵ David Twomey, *Bloomberg, Carney Say Business Gets Climate Risk*, ECONNEWS (Dec. 7, 2015), <http://economics.com.au/48921/bloomberg-carney-say-business-gets-climate-risk> [<http://perma.cc/5A9G-WPQ3>].

¹⁶ See Christina Nunez, *Solar Energy Sees Eye-Popping Price Drops*, NAT’L GEOGRAPHIC (Oct. 2, 2015, 9:00 AM), <http://news.nationalgeographic.com/energy/2015/10/151002-solar-energy-sees-eye-popping-price-drops> [<http://perma.cc/2GDF-VL4X>].

ables and different regulatory approaches to carbon pollution — offered assurances to nations approaching the Paris negotiations that a sustainable climate could be economically and technologically feasible.

Purdy points out that “[a]nswers 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.”¹⁷ But the shape of viable political and legal choices can change with developments in the market, such that development of cheap non-fossil fuel technologies opens a political path not previously available.

Finally, climate change may provide the occasion for reinterpretation of cultural resources. For example, the seemingly intractable cultural oppositions that filter our views on climate change were challenged by the leader of the Catholic Church, one of the world’s great faiths and the religious home of many prominent U.S. political figures who have so far disowned the climate science or abjured the moral responsibility to address it.¹⁸ Pope Francis’s *Laudato Si’* flipped Professor Lynn White’s cultural indictment of Christianity’s thoroughgoing anthropocentrism on its head by advocating a duty of care for God’s creation as good in itself.¹⁹ Although it is too soon to judge the encyclical’s long-term effects, it has at least for the moment changed the moral and political discourse on climate change in the United States — in what one study dubbed the “Francis effect.”²⁰

Changes in the cultural valence of climate change can also grow from exposure to the physical manifestations of a warming planet. Climate scientists are reluctant to assign causality between climate change and catastrophic events such as Hurricane Sandy or the prolonged California drought, instead describing the relationship as an increasing probability of such events in a warming world. But as such events become more frequent and severe and as the progressive effects of climate change — such as sea-level rise — become more pronounced, “climate change” may morph from a cultural litmus test to a reality that provokes common concern and action.

Bipartisan initiatives to deal with climate change have emerged in politically diverse coastal areas threatened with chronic flooding and

¹⁷ Purdy, *supra* note 3, at 1643.

¹⁸ See, e.g., Renee Cho, *Presidential Candidates: Who Believes in Climate Change?*, SCI. AM. (Oct. 28, 2015), <http://blogs.scientificamerican.com/guest-blog/presidential-candidates-who-believes-in-climate-change> [<http://perma.cc/GQ6K-XP4G>] (explaining that Senator Marco Rubio and Governor Jeb Bush, both Catholics, do not believe that climate change is caused by humans).

¹⁹ Pope Francis, *Encyclical Letter Laudato Si’: On Care for Our Common Home* (May 24, 2015).

²⁰ MAIBACH E. LEISEROWITZ ET AL., GEORGE MASON UNIV. CTR. FOR CLIMATE CHANGE COMMC’N & YALE PROGRAM ON CLIMATE CHANGE COMMC’N, *THE FRANCIS EFFECT: HOW POPE FRANCIS CHANGED THE CONVERSATION ABOUT GLOBAL WARMING* (2015).

encroachment. Professor Dan Kahan chronicles the emergence of a regional climate compact among four counties in southeastern Florida.²¹ Kahan concludes that this broadly supported plan was possible because the diverse participants — Democratic and Republican elected officials, local businesses, and citizen groups — made a point to avoid discussions of climate science as a test of cultural identity and instead to use the science to inform “how to live in a region that faces a serious climate problem.”²² This and similar domestic examples — from coastal areas along the Atlantic and in the Gulf — hold some promise of detoxifying discussions about climate science in a way that facilitates our collective well-being.

Similarly, Purdy emphasizes the “rise of local, regional, national, and international movement efforts to live in a lower-carbon way,” as a kind of cultural experimentation that could facilitate broader retrenchment in support of climate-friendly policies and practices.²³ Such reinhabiting moves — alternative ways of living that model different and more satisfying relationships to the world — may adjust “the relations among existing constituencies.”²⁴

The determinants of society’s path on climate change are diverse, contingent, and not entirely within the domain of political deliberation and control, but they both affect and are affected by political choices. They include localized experimentation, religious belief and moral reflection, politics and law, markets and technological development, and nature itself — absorbing our assaults but also relaying the effects of them back to us in ways that can shift cultural perspectives and political and economic behavior. Ideas of nature, the stuff of the environmental imagination, are important, but they do not drive change alone. They must be translated through economic and political systems and find ultimate acceptance or rejection in the realpolitik of nature itself. Much about these systems we may understand as indifferent, or worse, rigged against desirable change. But the rigging is not complete. And once that change has begun, aspects of the system, which might previously have resisted, can shift to amplify and expand. The system may seem blind, or at least haphazard, not the picture of deliberative choice that might be ideal. But it is the system that we have and are likely to have for the foreseeable future; from it we must extract, opportunistically where we can, the best future possible. The system can slide in undesirable directions. But to the degree that human deliberation plays a role, it can be the thumb on the scale that drives positive change.

²¹ See Dan M. Kahan, *Climate-Science Communication and the Measurement Problem*, 36 *ADVANCES IN POL. PSYCHOL. (ISSUE SUPPLEMENT S1)* 1 (2015).

²² *Id.* at 34.

²³ Purdy, *supra* note 3, at 1645.

²⁴ *Id.* at 1649.