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Charles Halvorson, *Valuing Clean Air: The EPA and the Economics of Environmental Protection* (New York: Oxford University Press, 2021).
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Introduction by Keith Makoto Woodhouse, Northwestern University

Sometimes it seems like the Environmental Protection Agency is always in the news. That's probably in part because the EPA is one of the most important environmental rulemakers in the United States and has an outsized responsibility for monitoring pollution and other forms of environmental harm. It's likely also because the EPA has become a favorite target of those who criticize government overreach and in particular the authority of executive agencies. It is easy to think of the EPA's lightning-rod status as a product of political polarization during the last decade or so, but in many ways it goes back to the EPA's creation in 1970. In *Valuing Clean Air*, **Charles Halvorson** provides us with not only an excellent history of the EPA itself—a subject about which environmental historians have written surprisingly little—but also a history of the broader political shifts that defined and reshaped the agency and its policies over the course of the late twentieth century.

Historians have written extensively about the growing pressure to address environmental concerns in the midcentury and about the subsequent eruption of laws and policies. But as Halvorson notes, they have paid less attention to how the vicissitudes of the Earth Day moment played out in later decades, "when the starburst of environmental concern intersected with the convulsions of the liberal state" (4). The history of environmental regulation in the half century since Earth Day is a story about how the environment has been valued, Halvorson explains, and also about how federal policies shifted away from top-down mandates and toward market-oriented solutions.

To better understand the federal government's increasing reliance on cost-benefit analysis and economic incentives, Halvorson focuses on one agency and one law: the EPA and the Clean Air Act Amendments of 1970. Both the agency and the law emerged amid the urgency of the Earth Day moment, with little concern for the economic cost of protecting the public from pollution. In both cases, however, economic cost came to function as at once a limit to regulation and a regulatory strategy. The story of how economic questions moved to the center of environmental regulation at the EPA involves, among other things, a variety of attempts to rein in the agency's power by emphasizing cost; internal worries about a backlash against overregulation; a slumping national economy; and intensifying mistrust in regulators as right-wing critics accused federal agencies of standing in the way of economic growth while left-wing critics accused the same agencies of kowtowing to industry's wishes.

By the 1990s, Halvorson explains, both the EPA and the mainstream environmental movement had pivoted to a "neoliberal approach" to regulation. This approach featured policy fixes like cap-and-trade programs that created markets in pollution and "bubble" policies that allowed industrial firms to reduce factory emissions though the most convenient and least costly means.

The neoliberal policies that the EPA has relied on for much of its existence, Halvorson points out, have in many ways been a success. While the U.S. population grew by well

over 100 million in the half century since the EPA's creation, aggregate emissions of the six major pollutants regulated by the Clean Air Act declined by over 75%. Still, one of those major pollutants—carbon dioxide—steadily increased. Reducing CO2 will be the greatest challenge of all, and Halvorson suggests that the mistrust in government that fueled market-based solutions will hamper any concerted efforts to confront climate change. The history of clean air and the EPA still has much to teach us.

Christine Rosen notes that Halvorson describes the debate at the heart of *Valuing Clean Air* in terms of "the Carsonian and Coasian understandings of public welfare"—an argument between those who followed Rachel Carson's belief that the protection of human beings and nonhuman nature should be imperative no matter the cost, and those who agreed with Ronald Coase that environmental regulation should weigh the benefits to people and nature against the costs to economic productivity and material well-being. Many environmental historians, Rosen says, fall firmly in the Carsonian camp, and so she applauds Halvorson's due consideration of the Coasian perspective. Still, she asks whether a focus on the EPA misses a major part of the story. While EPA regulation was central to the reduction of air pollution, Rosen explains, corporations understood which way the political winds were blowing and designed their own methods of waste minimization and "beyond-compliance pollution abatement." Growing public concern over pollution led to a blossoming of "voluntary industrial environmental innovation" in the 1980s and 1990s, private efforts to internalize environmental externalities that may help explain the success of the cap-and-trade system at the heart of the Clean Air Act Amendments of 1990.

Jackie Gonzales both appreciates and questions the way that Halvorson thinks of the EPA as an agency with a singular ethos, agenda, and instrumentality. On the one hand, Halvorson pays close attention to how laws can quickly escape the purview of the very legislators who write them. In many cases the application and interpretation of laws is more important than their particular dictates. Halvorson's focus on an executive agency, Gonzales says, allows him to set aside the arcane battles within Congress and look instead at the federal bureaucrats who gave shape and force to congressional intent. On the other hand, Gonzales points out, by presenting the EPA as a relatively uniform agency, Halvorson sets aside questions about the decision-makers themselves and how their particular backgrounds, values, identities, and experiences (or lack of) shaped EPA policies. Gonzales points especially to how the EPA moderated its position on automobile emissions for fear of angering the public. That temperamental and car-reliant public, Gonzales argues, was mostly white, and the car-centric world to which it held fast benefitted Americans who lived in suburbs and rural areas while costing Americans who lived in urban areas and breathed increasingly polluted air. While the EPA dramatically improved air quality for the average American, averages obscure as much as they reveal. "How," Gonzales asks, "can the history of an agency also tell the history of those forgotten by the agency?"

Leif Fredrickson asks how Halvorson thinks about the history of neoliberalism. Neoliberalism, Fredrickson says, had at least two forms in the late twentieth century. First, it was a somewhat abstract conception of the principles that should undergird

modern society, including faith in markets, skepticism of regulatory agencies, and a predilection for decentralized forms of government. Second, neoliberalism was a series of specific responses to the economic contractions of the 1970s, which included cutting taxes, fighting unions, rolling back regulations, and shrinking the administrative state. Fredrickson asks how *Valuing Clean Air* engages directly with the history and even idea of neoliberalism, especially given how the EPA became for many neoliberals the prime example of out-of-control regulation even as the laws on which the agency relied—which emphasized citizen lawsuits against federal agencies—suggested a pervasive wariness of government. Further, Fredrickson wants to know if environmentalists unquestioningly treated "the environment" as a singular category that should be exempt from market forces. Finally, Fredrickson asks a provocative counterfactual: what would environmental regulation have been like if responsibility were vested in a cabinet-level department rather than an independent agency, as was considered during the Nixon administration?

Thanks to all of the roundtable participants for taking part.

Comments by Christine Meisner Rosen, Haas School of Business, University of California-Berkeley

In *Valuing Clean Air: The EPA and the Economics of Environmental Protection,* Charles Halvorson examines the history of America's struggle against industrial air pollution from the late 1960s through the 1990s. During this period the idealistic, environmentalist vision of pure, clean air that motivated the passage of the 1970 Clean Air Act Amendments gave way to a far more conservative and dirty regulatory reality. Focusing on the economics of pollution control, Halvorson explains how and why the regulatory policies and enforcement regimes put in place during the Nixon Administration evolved in this way.

This book is a thought-provoking contribution to the historiography of the struggle against industrial pollution in late 20th century America. What made it thought-provoking for me was Halvorson's effort to frame his narrative around what he sees as humanity's need to minimize the economic cost of pollution regulation and abatement. As Halvorson puts it, "Much of the … tension around the application of economics in environmental policymaking that this book explores would be the result of trying to reconcile the Carsonian and Coasian understandings of public welfare" in the fight against industrial pollution (19). Whereas Carsonian environmentalists, inspired by the pioneering work of Rachel Carson, believed it was essential to minimize the harm caused by human exposure to industrial toxins no matter what the cost, Coasian economists, inspired by the Nobel prize winning work of Ronald Coase, believed society should limit environmental protection in economically rational ways to ensure that the costs of protecting the environment and human health would not exceed the benefits.[1]

This is an intriguing way to think about what was important about the battles that shaped the fight against industrial air pollution in America in the 1970s through the 1990s. The idea at the heart of Ronald Coase's contribution to the study of the economics of environmental regulation is that externalities like pollution are reciprocal problems—two-way streets—in which the polluter imposes a cost on bystanders, but also in which the victim's demand that the polluter abate this harm imposes a cost on the polluter. For Coase, both kinds of cost were equally problematic, and society needed to minimize both. Coase argued that in the absence of transaction costs, the market mechanism provided the most efficient way to do this, because it enabled the generators and the victims of pollution and other environmental externalities to negotiate mutually acceptable solutions that minimized both kinds of cost in economically rational ways. The party that placed the highest value on solving the problem would naturally prevail, thus bringing about agreements that by their very nature maximized, in Coase's words, "the value of production." Thus, privately negotiated solutions would not only be efficient, optimally

[1] Rachel Carson, *Silent Spring* (Boston: Houghton Mifflin, 1962); R. H. Coase, "The Problem of Social Cost," *The Journal of Law & Economics*, III (October 1960), 1-44.

benefitting the parties to the agreement, but also benefit society as a whole, even if the prevailing party was the polluter and the agreement allowed the pollution to persist.[2]

Following this logic, Halvorson frames his history around the idea that economists brought a higher level of economic rationality to the struggle against industrial air pollution than activist environmentalists. He seems to think the same of manufacturers, for whom the effort to minimize the costs of compliance was a matter of economic self-interest rather than economic theory. He argues that industry's opposition to regulatory enforcement helped pave the way for economists to develop better, cost saving, more economically efficient, market-based regulatory policies and enforcement strategies. For him, then, this history was a complex, fraught, three-decades-long march of progress.

Needless to say, this is quite different from the perspective most environmental historians have brought to bear on this subject. Most have approached the subject of environmental protection from a more Carsonian perspective, as a terrible problem crying out for a solution and corporate America's successful efforts to block the enforcement of pollution regulations as examples of corporate managers pursuing shareholder profit and their own self-interests at the expense of the public good.[3]

In contrast, Halvorson treats corporate efforts to avoid compliance as economically rational responses to the high cost of pollution abatement and as such, part of the positive learning process by which American government officials were gradually compelled to improve environmental regulation to advance the public welfare by making the regulatory process more economically efficient and cost effective. Profit maximizing American manufacturers quite legitimately preferred to spend their resources on improving their own operations rather than solving a market externality problem by installing pollution abatement equipment. The recessions and inflation caused by the 1973 OPEC oil embargo, and the Iranian oil embargo that followed in 1979, made it even harder for corporate managers to mobilize the resources needed to comply with pollution regulation, as did the international competitiveness crisis facing many of America's biggest manufacturers during the 1970s and 1980s. The competitiveness crisis was especially debilitating, because it forced firms to focus on investing in conventional forms of corporate restructuring, technological innovation, and improved management systems.

Halvorson points out how these broader economic problems and needs made industry's protests against pollution regulation resonate not only among Republicans, whose pro-business ideology prepared officials in the Nixon, Ford, and Reagan administrations to sympathize more with industry than with environmentalists, but also among Democratic

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[2] R. H. Coase, "The Problem of Social Cost," 2, 15-16. See also: Steven G. Medema, "A Case of Mistaken Identity: George Stigler, 'The Problem of Social Cost" and the Coase Theorem," *European Journal of Law and Economics*, 31, no. 1 (2011): 15- 16; Deirdre McCloskey, "The So-Called Coase Theorem," *Eastern Economic Journal*, 24, no. 3 (Summer 1998), 367 -368.

[3] See for example, Gerald Markowitz and David Rosner, *Deceit and Denial: The Deadly Politics of Industrial Pollution*, (Berkeley: University of California Press, 2002); Benjamin Ross and Steven Amter, *The Polluters: The Making of Our Chemically Altered Environment*, (New York, Oxford University Press, 2010)

officials—and among the American public more broadly. America's serious economic problems intensified widespread public concern that environmental protection was a luxury that people simply could not afford.

This stimulated interest in finding more cost-effective ways to use regulation to abate pollution to protect the environment and public health. And this, in turn, drew economists into the work of designing better, more flexible, more cost effective, market-based pollution regulation policies and enforcement regimes. And this ultimately resulted in the enactment of the 1990 Clean Air Act Amendments, during the George H.W. Bush Presidency. This law created the nation's first cap and trade program to regulate sulfur dioxide emissions to reduce acid rain—a program that, as Halvorson points out, "proved to be an even greater success than its supporters had imagined." It stimulated improvements in abatement technologies that slashed the cost of SO2 abatement, while "generating approximately $50 billion in annual public health benefits by 2012" (189).

As interesting and novel (and no doubt controversial) as Halvorson's Coasian narrative arc is, in and of itself, I wonder how his story might change if we look behind the internal politics of policy making and regulatory enforcement at the EPA and focus more on how industry worked to improve its environmental performance on its own. It seems to me that this broader perspective provides an opportunity to develop a more expansive and nuanced Coasian analysis of America's struggle to clear its air of industrial air pollution.

Coase did much more than draw attention to the many costs of protecting the environment and the economic desirability of minimizing all of them. He recognized that in practical reality, there were also many "transaction costs" involved in negotiating market solutions to pollution and other environmental externality problems. These transaction costs included having "…to discover who it is that one wishes to deal with, to inform people that one wishes to deal and on what terms, to conduct negotiations leading up to a bargain, to draw up the contract, to undertake the inspection needed to make sure that the terms of the contract are being observed, and so on."[4] Coase argued that such transaction costs meant that it was unrealistic to assume that polluters and their victims would be able to easily negotiate private, market-based, economically munificent solutions, especially where large numbers of polluters and victims were involved. Where transaction costs were high, he argued that regulation could be a better way for society to internalize the externalities of industrial pollution.[5]

However, Coase also criticized regulatory solutions. Interestingly, he devoted most of his article to a critique to the sort of Pigouvian, market-based regulatory regimes, such as pollution taxes, that most economists—and Halvorson—see as inherently superior to the technology-based regulatory regime established by the 1970 Clean Air Act Amendments. Coase expressed grave doubts as to whether Pigouvian market-based regulatory

[4] Coase, "The Problem of Social Cost," 15; Medema, "A Case of Mistaken Identity," 16-18.
[5] Coase, "The Problem of Social Cost," 15-18;

regimes, such as pollution taxes, could be designed carefully enough to ensure that their economic benefits exceeded their costs.[6]

Despite Coase's uneasiness about market-based environmental protection regulation and his emphasis on the economic benefits of private, market-based solutions to environmental problems, Halvorson has chosen to focus his book on the history of what was happening in the regulatory arena. In so doing, he misses an opportunity to enlarge the scope of his analysis to include the many things that companies and NGOs were doing during this period to reduce pollution and the cost of pollution abatement voluntarily, through intra-corporate management improvements and extra-corporate collaborative initiatives with other firms and NGOs.

In fact, the market was an arena of remarkable voluntary industrial environmental innovation during the late 1980s and the 1990s. It wasn't just public policy minded economists who were drawn into the "smart" and "efficient" environmental protection realm. Growing numbers of corporate executives and line managers were as well—as much by market forces as by regulation. It took time for them to begin doing so. However, they began to engage in beyond-compliance pollution abatement, waste minimization, and other forms of corporate environmental protection in response to their need to comply with a growing number of major industry environmental regulations (see Fig. 1)—and to prepare for more such regulation.

Figure 1:
Major Federal Industrial Pollution and Environmental Protection Regulation Laws Enacted 1970-1980

Clean Air Act Amendments of 1970
Noise Pollution and Control Act of 1972
Water Pollution Control Act of 1972
Marine Protection, Research and Sanctuaries Act of 1972
Safe Drinking Water Act of 1974
The Resource Conservation and Recovery (RCRA) Act of 1976
Toxic Substances and Control Act of 1976
Comprehensive Environmental Response, Compensation, and Liability (Superfund) Act of 1980

They were also incentivized to do this by popular uproars over news reports about disastrous hazardous waste leaks, toxic chemical discharges, and cases of workers falling ill due to exposure to workplace emissions at international as well as American factories—and by the rising tide of environmental consciousness among American

[6] Coase, The Problem of Social Cost, 28-44; Medema, "A Case of Mistaken Identity," 16-18; McCloskey, "The So-Called Coase Theorem," 368-371.

consumers and the public more generally. As time progressed, these regulatory requirements, environmental disasters, and green consumerism led corporate managers in many industries to recognize that their existing internal management systems were (in classic Coasian fashion) doing more financial harm than good for their corporate bottom lines. They began to realize that they needed to redesign these systems to improve their regulatory compliance, reduce their waste discharges, and minimize the legal and reputational risks associated with leaks and discharges of toxic chemicals and other wastes.[7]

The story of how Allied Chemical Inc. rolled out internal, corporate environmental management improvements is indicative of the iterative processes of managerial improvement undertaken by many American manufacturing firms in the 1970s, '80s, and '90s. In Allied Chemical's case, the process began in 1977, two years after the state of Virginia shut down its Hopewell, VA, Kepone pesticide factory in response to emerging evidence that its uncontrolled emission of the pesticide was poisoning workers and its discharge of toxic plant wastes into the James River was poisoning the river's fish, destroying local fisheries. These disasters prompted Allied's CEO and his top executives and members of his corporate Board of Directors to begin hiring more environmental services staff and assigning more weight to environmental responsibilities in its measurement of managerial performance in order to try to reduce the risks associated with the emission of toxic chemicals at the company more generally. To help them figure out more sophisticated ways to reduce the firm's environmental liabilities and improve its environmental performance, they also brought in the consulting firm Arthur D. Little. In response to the consultant's recommendation that the company give its environmental management function more internal, organizational visibility and authority, they agreed to reconstitute Allied's existing Environmental Policy Committee as a Board of Director's level committee and to appoint its head as a corporate vice president. That committee set up a new auditing system for more closely monitoring Allied regulatory compliance and began figuring out ways to better manage its many hazardous waste disposal sites and its treatment and storage of hazardous wastes.[8]

Things seemed to be going well at Allied, until the 1986 Superfund Amendments established the TRI (Toxics Release Inventory) reporting requirement, which forced Allied and other large chemical producers and users to begin publicly reporting their

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[7] Bruce Smart (ed.), *Beyond Compliance: A New Industry View of the Environment*, (Washington D.C.: World Resources Institute, 1992); Kurt Fischer and Johan Schot (eds.), *Environmental Strategies for Industry: International Perspectives on Research Needs and Policy Implications*, (Washington D.C., Island Press, 1993); Claude Fussler with Peter James, *Driving Eco-Innovation: A Breakthrough Discipline for Innovation and Sustainability*, (London: Pittman Publishing, 1996); Forest L. Reinhardt and Richard H. K. Vietor, Business Management and the Natural Environment: Cases & Text, (Cincinnati: South-Western College Publishing, 1996).

[8] Edward Prewitt, "Allied-Signal: Managing the Hazardous Waste Liability Risk," Harvard Business School Case: 9-793-044 (Rev. 11/18/92). For descriptions of a similarly iterative process of rolling out improvements in environmental management systems at Xerox, see: Abhay K. Bhushan and James C. MacKenzie, "Environmental Leadership Plus Total Quality Management Equals Continuous Improvement," *Total Quality Environmental Management* 1, no. 3, (Spring 1992), 207-224 and the references at n 9.

emissions of certain toxic chemicals. In 1988, Allied managers discovered that their company (by then known as Allied-Signal, after Allied's 1985 merger with the Signal Company) was the third largest emitter on the TRI list, behind Du Pont and Monsanto, both much larger companies and selling ten times the amount of chemicals as Allied-Signal was. Dismayed, top Allied-Signal managers realized they still had work to do and turned their attention back to improving the company's corporate environmental management system. They set up additional programs to motivate and reward employees for figuring out ways to reduce waste, recycle waste, and improve waste treatment as well as establishing a new internal accounting system for determining which of the proposed improvements the company should implement. They also created new reporting systems for tracking inspections and audits of Allied-Signal's pollution emissions and its use, transfer, storage, and disposal of hazardous chemicals and manufacturing wastes. [9]

Surveys conducted in the early 1990s by the consulting firms Booz-Allen & Hamilton and Abt revealed that by 1990, Allied was far from alone in publicly announcing the establishment of corporate environmental policies and programs. Many large American firms were doing the same. As Joel Mackower, the co-founder of the Greenbiz Group, a consulting company operating at the intersection of business, technology and sustainability, put it in his 1994 book on making sustainable business a practical reality, these consulting firms reported that some of this progress was still superficial and limited largely to regulatory compliance. However, they also found that growing numbers of companies were implementing policies and programs that addressed, "environmental issues across functions—in decisions about strategic planning, research, and development, public relations, risk management, marketing, and diversification," some of which were integrated with newly established corporate Total Quality Management (TQM) programs. Because of such change, as researchers at Coopers & Lybrand, an accounting firm, reported in 1991 (again in good Coasian fashion), "more and more companies are beginning to take a proactive approach to environmental concerns in the belief that good environmentalism means good business.[10]

This process accelerated in the late 1980s and early 1990s when growing numbers of corporate environmental managers began working across firm boundaries to improve their firms' environmental performance through their industry trade associations and other groups. They recognized they could not only learn from each other about how to improve their firms' regulatory compliance, but also about how to go beyond compliance to reduce their corporate pollution and harmful waste discharges proactively to better prepare for stricter regulation in the future, improve their corporate reputations and brands, and broaden their appeal to green consumers. For example, environmental managers at Allied Signal became active in the Chemical Manufacturers' Association's

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[9] Prewitt, "Allied-Signal," 11-18.

[10] Joel Makower, *The **E**-Factor: The Bottom-Line Approach to Environmentally Responsible Business*, (New York: Plume, 1993), 124-126 ff. See also: Bhushan and MacKenzie, "Environmental Leadership" 207-223. For more on how corporate managers were working to make their firms more environmentally sustainable in the 1980s and 1990s see also the references at n 9.

(CMA's) newly established Responsible Care Program following the publication of the early TRI figures, in order to get help figuring out better ways to minimize their toxic chemical discharges. They turned to their peers and the management experts in the Responsible Care Program for guidance and support as they pushed Allied-Signal's upper management to invest in the additional managerial and technological improvements needed to correct the company's embarrassing ranking on the TRI list and further reduce the firm's risk of experiencing toxic leaks and other environmental problems.[11]

A wide range of trade organizations formed similar environmental programs in the late 1980s and early 1990s. Among the largest and most impactful were the International Chamber of Commerce (ICC) and the International Organization for Standardization (ISO). Another such group, the Coalition for Environmentally Responsible Economies (CERES), was a coalition of investors, environmental advocacy groups, and labor unions dedicated to improving corporate environmental performance. Like the corporate representatives who participated in the CMA's Responsible Care Program, the participants in these groups worked together to develop sets of over-arching environmental principles and codes of responsible member conduct and management practice for members to urge their firms to adopt and follow as company policy. The codes included the ICC's Charter for Sustainable Development and its Global Environmental Management Initiative (GEMI) corporate self-assessment program, the ISO's ISO 14000 environmental management standard program, and the CERES group's CERES Principles. Though trade associations rarely enforced their environmental codes, in one way or another, the codes all created an expectation that association members would, at the very least, establish corporate environmental goals and targets and measure their progress toward meeting their goals.[12]

Trade organizations also played a role in helping manufacturers figure out cost effective ways to develop "green" supplier management systems. As more and more American manufacturers began outsourcing operations to companies in the developing world in the 1980s and 1990s, environmental managers began realizing they were losing control over the environmental impacts of manufacturing their products. They began thinking about how best to engage with far-flung, independent suppliers in Asia, Latin America, and other places where environmental regulation was very weak or non-existent, to induce them to invest in pollution abatement and other forms of corporate environmental protection in their own operations, in order to improve the environmental quality of the parts and products they were procuring from abroad. For example, semiconductor manufacturers turned to their global trade association, the Semiconductor Equipment and Materials International (SEMI), an international standard

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[11] Prewitt, "Allied-Signal: Managing the Hazardous Waste Liability Risk," 10-11.

[12] Jennifer Nash and John Ehrenfeld, "Code Green: Business Adopts Voluntary Environmental Standards," *Science and Policy for Sustainable Development*, 38 no.1, (1996), 16-45. For a somewhat more critical view, see also, Michael J. Lenox and Jennifer Nash, "industry Self-Regulation and Adverse Selection: A Comparison Across Four Trade Association Programs," *Business Strategy and the Environment* 12, (2003), 343-356. For an interesting Coasian take on the subject, see: Andrew King, "Cooperation Between Corporations and Environmental Groups: A Transaction Cost Perspective," *Academy of Management Review*, 32, no. 3 (July 2007), 889-900.

setting organization established to promote continuous improvement in electronic product development in the semiconductor industry. The result was the development of the SEMI S2 standard, which created rules and guidelines for manufacturers and their suppliers to follow when negotiating contractual agreements that included environmental protection provisions. Participating manufacturers hoped the S2 Standard would help them "protect themselves from the costs and business risks of asking equipment manufacturers to improve EH&S features on a custom basis."[13]

These corporate management changes and corporate trade association initiatives reveal that American corporations began to voluntarily internalize their negative environmental externalities in the 1980s and 1990s. How did these voluntary initiatives impact the political struggles over American industrial pollution regulation and enforcement in the last three decades of the twentieth century? Halvorson doesn't address this question because he focuses exclusively in his book on the political struggles over air pollution regulation. However, the internal corporate and broader, industry-wide negotiations that corporate managers engaged in to facilitate their firms' adoption of voluntary, internal, beyond-compliance pollution abatement management strategies and other forms of corporate environmental protection seem as important to me as their lobbying to obstruct and reduce the scope of state-mandated pollution abatement regulations. I suspect this kind of managerial innovation played as big a role in stimulating business support for (and hence congressional and presidential support for) the passage of the 1990 Clean Air Act Amendments as the arguments put forward by academic economists regarding the benefits of market-based regulation. I also suspect that they help explain industry's surprisingly rapid compliance with the 1990 Act.

Coase asked economists to address the question of how parties privately negotiate solutions to environmental problems, as well as to think through the complexities of regulatory solutions. The full history of America's struggles to reduce pollution and other industrial environmental hazards gives us the material we need to address the many sides and complexities of the challenge of resolving Coase's "problem of social cost."

[13] Christine Meisner Rosen, Sara L. Beckman, and Janet Bercovitz, "The Role of Voluntary Industry Standards in Environmental Supply-Chain Management: And Institutional Economics Perspective," *Journal of Industrial Ecology* 6, no. 3-4 (2002): 103-123. See p. 106 for quote.

Comments by Jackie M. M. Gonzales, Historical Research Associates, Inc.

In *Valuing Clean Air: The EPA and the Economics of Environmental Protection*, Charles Halvorson deftly uses the Environmental Protection Agency (EPA)'s administration of the Clean Air Act from the 1970s to the 1990s as a narrative backbone to discuss changing responsibilities and actions of the state regarding environmental health (5).

I am an historian who writes many institutional histories, and so one thing that immediately stuck out to me is that this is first and foremost an institutional history—and a very good one. Halvorson clarifies that he sees this institution, the EPA, as having a collective consciousness: the agency has agency. My colleagues and I have had long discussions about whether it makes sense to use the singular to describe the actions of an institution, and so I liked the way Halvorson dove into this right off the bat. The way he parses that back-and-forth is nuanced and thoughtful, and I think helpful to anyone piecing together an institution's history:

> Telling the Environmental Protection Agency's story requires a claim that is at once impossible and essential: that an institution can be imbued with a sense of agency by the people who make it up. To speak of the EPA's mission, indeed, to address EPA in the singular, is to acknowledge the power of that ongoing communal investment. Describing the EPA as having purpose and volution does not preclude recognition of the many facets of the institution or the turmoil or contests that took place within it—this book is concerned with precisely those debates. Nor does it isolate the EPA from the constellation of outside actors who were often as important as those inside the agency in defining, challenging, and defending the EPA's mission. There are characters who pop up throughout this story who only briefly or never worked at the EPA, and that is part of the story. But no matter how varied or porous the EPA might appear under close examination, a shared set of values and sense of purpose animated the agency. Doug Costle, who helped to create the EPA, served as its third administrator, and contributed to its defense during the Reagan administration, later reflected on what he called the agency's 'conscience': the belief among the EPA's staff and their allies that the government had an essential role to play in protecting clean air and water from the inevitable degradation of free enterprise left to its own devices. More than anything else, the EPA's historical agency emanates from this shared commitment to the idea that the federal government has the responsibility, authority, and capacity to protect the environment (8).

The people who make up or interact with the institution give life to it. Halvorson's eloquent framing of this both sets boundaries and hints at the potential pitfalls of an institutional history: it might only be as encompassing as the perspectives of those who touch it in some way.

To uncover the stories of those within the institution, Halvorson used EPA files held by the National Archives and Records Administration (NARA); files of EPA administrators, political appointees (advisors, Council of Environmental Quality members, others), and

elected officials at various presidential libraries; records of outside environmental organizations (Environmental Defense Fund [EDF], Natural Resources Defense Council [NRDC]) housed at university archives; oral histories of over two dozen EPA staff members (conducted by Halvorson); governmental reports by EPA or other related agencies; and industry periodicals (such as *Chemical Week*), to look at how industries being regulated reacted to regulations.

Halvorson did not review congressional records, which makes sense based on the parameters of the book: he intentionally wants to look at how the agency made policy, not at how Congress deliberated it. He convincingly argues that this perspective is important, and differs from many environmental histories of the state, which tend to look more at the enactment of laws, not the rulemaking and implementation that follow. Whereas in the case of the EPA and clean air laws, the institution shaped policy far more than the initial legislation.

Halvorson identifies "four key themes animating modern environmental politics" from the 1960s to 1990s, which he traces throughout the book:

1. Support for environmental regulations moving away from a bipartisan consensus as Republicans shifted to anti-environmental policies.

2. Rise of science as basis for policy.

3. Increasing faith in market-oriented solutions to environmental problems.

4. Rise of "monetary approaches to environmental value" and away from the language of environmental health as a fundamental right (5-8).

In his final chapter, Halvorson discusses how that economic valuation and market-oriented pollution controls left certain people to bear the brunt of pollution. He discusses activists in what later became known as the environmental justice movement pushing back against market-based solutions because of how these systems could then continue the long practice of concentrating pollutants within communities of color or poor communities, and notes that the EPA was "increasingly sensitive" to the concerns of environmental justice advocates, many of whom "mistrusted any scheme that returned power over the allocation of pollution to businesses, fearing that polluters would do as they had done before and concentrate emissions in the marginalized communities where they were least likely to face resistance." The EPA opened offices to channel these concerns in the early 1990s, but, Halvorson notes, critiques persisted as the National Environmental Justice Advisory Council warned in 1999 that "trading was in fact creating 'hot spots' of pollution in poor neighborhoods and communities of color" (165–168, quote from 190).

The point about hot spots is a good one, but I couldn't help feeling that it came a little late, and that by only discussing environmental inequities in this period, we miss inequities that arose earlier in the agency's history. For, of course, the creation of "hot spots" did not begin in the 1980s and 1990s. The EPA (and earlier public health organizations that

it supplanted) has always cleaned up environments for certain people at the expense of others, even before the rise of market-based solutions and economic valuation.

Sources might help explain how this isn't a bigger part of an institutional history of the EPA: families who bore the brunt of air pollution at a local level did not have the institutional funding and record-keeping of historically White environmental organizations like the NRDC and the EDF, and therefore did not leave behind the same levels of written documentation. But by reading primarily the papers of people who ran the agency and the environmental organizations, we risk missing what they missed.

EPA files wouldn't include letters from people who felt forgotten by the agency, people who did not bother to write because they knew deep down that the agency was not working for them. EPA files wouldn't include sources of people who wanted to sue but didn't have the money, resources, or connections to know how to navigate the intricate legal processes. Their stories are left out of this book because their stories are left out of the shared consciousness of the EPA and the sources that the agency left behind. How can those of us who write histories of U.S. federal agencies better address the reality that most of these institutions—intended to be in service to the American people—have often repeatedly failed to represent and protect all Americans?

As I read Halvorson's book, I realized that, in institutional histories that I have written for federal agencies, I have often not done a good job of addressing who worked for the agency. And, if we are to see these institutions as having their own agency, as Halvorson makes a strong case for, perhaps we should take a more critical approach to examining how, collectively, the experiences, backgrounds, values, racial identities, gender identities, geographic dispersal, and socioeconomic statuses of agency employees have steered the decisions of those agencies.

I wonder if Halvorson's detailed and fascinating account of the EPA's repeated failure to regulate car emissions might provide a window into how the EPA has always left some Americans behind.

Throughout the book, Halvorson discusses how the EPA made exceptions to clean air laws for the auto industry and vehicular emissions.[1] I was particularly struck by the story of EPA Administrator William Ruckelshaus deliberately suggesting stringent measures on car emissions regulations to prove that Clean Air Act amendments weren't politically viable when it came to automobiles. Halvorson quotes from a January 1973 memo written by Ken Cole, advisor to President Nixon:

> The EPA plan is unworkable. We know it and Ruckelshaus will say it. It would require an 80% traffic reduction in the Los Angeles area. Our intention is, of course, never to put such a plan into effect, but to ultimately amend the Clean Air Act to permit administrative discretion in achieving the legislative requirements so that we can permit the

[1] Halvorson, *Valuing Clean Air*, especially 32–39, 68, 76–78, 81–83, 93–97, 148.

> technology of the automobile industry to in effect solve the problem itself over time (93–97, quote from 95).

The EPA not only failed to regulate car emissions: it goaded the American people into defending cars as a lifeway, as Halvorson does a great job pointing out:

> . . . the unintended ricochet of outrage is worth dwelling on. Ruckelshaus believed in the merits of a substantive shift away from polluting cars, just at a more gradual pace than the Clean Air Act required. But many of the people inflamed by his parking lot controls and gasoline rationing plainly did not believe that they should have to change their behavior in the name of clean air. By amplifying those voices in response to such a disruptive plan, Ruckelshaus helped politicize environmental regulation. Telling ordinary Americans that they could not drive their own cars created the perfect image of unaccountable bureaucracy—calling forth the specter of the overreaching state that Reagan and other Republican political candidates would soon run against.

What Halvorson leaves unsaid is that those inflamed Americans who defended their car-centric lifestyles to the point of changing parties were mostly White.

While Cole and Ruckelshaus were writing about the political impossibility of decreasing automobile usage, many White Americans were leaving cities in droves, enabled by increasingly integrated and government-funded car-based infrastructure. Suburban Americans supported urban renewal projects that carved out the guts of cities to make room for those outside of cities to drive through and park their cars in dense urban cores. Meanwhile, redlining and institutionalized racism in banking, real estate, and municipal governments meant that many people of color could not leave these neighborhoods. We all know the story.

Today, if you live in a rural or suburban area, you are far more likely to have clean air than if you live in an urban area. And if you live in an urban area that was redlined, your air quality is likely even worse. Transportation emissions from gasoline-powered cars, trucks, and buses are one of the biggest drivers of the polluted hot spots that occupy America's cities.[2] By failing to regulate car emissions, the EPA left behind the many Americans living in dense urban environments, dooming children to lifetimes of asthma and other illnesses stemming from poor air quality that was increasingly attributable to gasoline-powered vehicles. That legacy persists today.

Which brings us back to: who was the EPA (singular)? Who were the people that made up that institution (plural)? What was their socioeconomic makeup? Did most EPA

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[2] See, for example, Katherine Bourzac, "A local look at air pollution highlights inequalities within cities," *Chemical & Engineering News* 99, no. 23 (June 20, 2021), https://cen.acs.org/environment/pollution/local-air-quality-monitoring-inequalities/99/i23; Sarah E. Chambliss, et al., "Local- and regional-scale racial and ethnic disparities in air pollution determined by long-term mobile monitoring," *Proceedings of the National Academy of Sciences of the United States of America* 118, no. 37 (2021), https://www.pnas.org/doi/10.1073/pnas.2109249118.

employees live in dense urban neighborhoods, where their kids breathed in the exhaust of thousands of cars and heavy trucks while playing on the street? Or did more live in suburbs of DC, where only a few exhaust-belching cars drove past their quiet, tree-lined cul-de-sac? Did EPA employees living in these suburbs want to keep surcharges off of the downtown parking lots that they drove their cars to? To keep their gas prices low? How many people who lived full-time in DC or New York or Chicago, who breathed the exhaust of cars and trucks and buses, worked for EPA? And how do the answers to these questions shape what policies administrators see as reasonable?

The EPA did a good job protecting air, land, and water for some people. It has never helped everyone.[3] And while Halvorson does touch on this, the story is longer and deeper than his book delves into.

Other pre-1990s examples in Halvorson's book triggered alarm bells in my head, such as a passing discussion of how private citizens could sue persons or firms in violation of the Clean Air Act, or sue EPA, "for failing to uphold any part of the act" (60). Which private citizens could really sue? In reality, only those with enough money and resources to mount a lawsuit, which has contributed to current environmental inequities. Elsewhere, Halvorson notes, "In perhaps the most compelling testament to the agency's success, the EPA's air program had extended the average life expectancy of an American by an entire year" (131). But the U.S. has always had massive life expectancy gaps based on race, and air pollution contributes to those gaps.[4] Who has the EPA left behind?

Halvorson concludes with a discussion of how market-based approaches and the trend toward economic valuation of environmental health have won out over the language of rights, lessening calls for a moral imperative to protect the environment and public health. This is a good point, and perhaps it's just because I live in New York State, but the exception that popped into my head was the recent constitutional amendment ratified by New Yorkers granting all residents of the state the "right to clean air and water, and a healthful environment."[5] Pennsylvania, Montana, and Massachusetts also have the right to a healthy environment enshrined in their constitutions as fundamental rights.[6] Where does that fit within the story? Are we circling back to a language of rights? The EPA might not use a language of rights anymore, but activists do, and many activists in the communities most burdened by environmental pollutants always have. How does this

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[3] Kristen Lomardi, Talia Buford, and Ronnie Green, "Environmental racism persists, and the EPA is one reason why," *The Center for Public Integrity*, August 3, 2015, https://publicintegrity.org/environment/environmental-racism-persists-and-the-epa-is-one-reason-why/#note.

[4] See this page from the National Equity Atlas, which points to air pollution as an indicator. National Equity Atlas, "Life Expectancy," accessed December 19, 2022, https://nationalequityatlas.org/indicators/Life_expectancy#/.

[5] New York State Constitution, Article 1, Section 19.

[6] Corinne Bell, "Every State Should Have a Right to a Healthy Environment," *National Resources Defense Council Blog*, March 29, 2021, https://www.nrdc.org/experts/corinne-bell/every-state-should-have-right-healthy-environment.

book—and the sources used to write it—unintentionally leave out their stories? How can the history of an agency also tell the history of those forgotten by the agency?

Comments by Leif Fredrickson, University of Montana

It's hard to think of something more fundamental to the material life of humans than air. Without it, you die in minutes. More gradually, dirty air contributes to the death of millions of people every year.

It's also hard to think of something more fundamental to the cultural life of humans than value. Behind every political principle, every economic system, every policy choice—in fact, behind almost any everyday choice—is a set of values. Such values are not necessarily quantifiable, fungible, explicit or coherent, and somewhat confusingly they include things we deem "invaluable." But nevertheless, values shape how we act and justify our acts in the world.

And yet, both of these things are virtually invisible. They manifest in all kinds of ways that may be visible, but on their own, they're formless, ethereal and, in the case of value, highly abstract. All of that has surely made it difficult for humans to grapple with these important phenomena, all the more so when we grapple with them together to try to "value the air." Even in the late twentieth and early twenty first centuries—with broad public awareness of the problem of air pollution and a slew of experts who devote their lives to studying air pollution and polices related to it—valuing the air has been a fraught endeavor, as Charles Halvorson shows in *Valuing Clean Air*.

Unlike attempts to value the air (or at least, come to a political consensus on it), Halvorson's new book is a great success. In it, he analyzes the evolution of cost-benefit analysis (CBA) at the Environmental Protection Agency (EPA), unpacking in the ideas, interests, and assumptions that undergird different proposals for evaluating and regulating air pollution. It is an exceptionally well-researched and written history. I have a couple dozen books about the EPA on my shelves. Most of them are written by insiders to the EPA (former staff or people directly involved with the agency's politics). These are useful, but make little effort to step outside of their internalist perspective. Others, by political scientists, are usually an attempt to test a political theory. Again, they are useful, but often narrow. Halvorson's deeply contextualized history of the EPA is breath of fresh air, and while its value goes beyond just the history of the EPA, it is undoubtedly the best single history of the EPA that is out there right now.

This brings me to the first of several reflections and questions I have for Halvorson (who I will refer to in the second person from here on out, because it seems more natural). I'm surprised by how little historians have engaged with the history of the EPA. Synthetic histories of the post-1945 or post-1960s period usually only mention the agency as the denouement of the environmental movement, with perhaps a short encore in the 1980s to illustrate Reagan's deregulatory agenda. I find the EPA's passing mention especially strange in books about the rise of "neoliberalism" given the importance of the EPA as a regulatory agency (arguably the single most impactful agency) and as a political symbol (often *the* example of federal red tape run amok).

To my mind, there are two stories of neoliberalism. The first is a story of neoliberalism as a set of somewhat coherent philosophical ideas about how society should work. These ideas include things like: the inherent efficiency of markets and private property; the inherent inefficiency of government and regulation; the preference for decentralized over centralized government; and so on. The second is a story of neoliberalism as a reaction of businesses (or "capitalism") to the economic shocks and declining profits of the 1970s. (This conceptualization of neoliberalism is similar to how historians have portrayed "progressivism" as a *response* to industrialization, rather than a coherent philosophy). These reactions include attempts to suppress unions, cut taxes, deregulate, force regulatory reform, deconstruct the administrative state and so on. But these reactions are tools. People might mobilize philosophical rhetoric to justify those reactions, but the goal is a narrow outcome (more profits) not an idealized social system. Of course, the story of the rise of neoliberalism can be both, and there were certainly both purist and instrumentalist approaches to the idea of "freer markets." But one of the things I love about this book is showing how those different approaches clashed, particularly during the Reagan administration, where the objectives of deregulation (and administrative dismantling) undercut efforts at market-based regulatory reform. (Similarly, Reagan's attacks on federal bureaucracy and centralized government took the form of a deepening of executive and bureaucratic power through the Office of Information and Regulatory Affairs). So, whether these two stories I've outlined make sense or not to you, I'm interested in how you see the story of CBA and the EPA fitting into the various types of stories that are told about the rise and transformation of neoliberalism. Put another way, how might the story you tell expand, challenge, or complicate histories of (or ideas of) neoliberalism?

On the topic of CBA, I have two questions. First: CBA is, I think, intuitive to many people if they are thinking about how to balance different social objectives. Public health-based standard setting has its own intuitive appeal. But other aspects of policy balancing, like the Clean Water Act's various technological standards, are not very intuitive. My feeling is the intuitiveness of CBA accounts for a lot of its power. The basic idea of balancing costs and benefits is pretty simple, even if the technical details are often fraught with all kinds of issues. And so there is a sort of gravitational pull toward CBA if one decides there is a need to balance public health objectives with other social objectives. I'm curious if you came across any policy makers who were critical of CBA, but who tried to develop alternatives to CBA that were also simple and intuitive.

A second question on CBA pertains to its stringent rejection by some environmental advocates on the basis that environmental quality should not be subject to the market (and similarly, that there should be no markets or rights for pollution). As I read the book, I was increasingly struck by the way environmentalists treated environmental quality as a social objective that should be exceptional in its protection from the market. There is of course a long literature on the way white, middle-class environmentalists have neglected the environmental and social concerns of other groups. But I was struck by how this wasn't just a matter of elevating the concerns of environmentalists over other concerns in a sort of agenda-setting way, but really arguing that environmental quality should be treated differently than, say, food, housing, health care, and transportation—to name just

a few few things that we (in the United States) allow to be priced and provisioned through the market. It seems to me that one of the weaknesses of the rejection of the market (e.g., CBA) for environmental quality is the *acceptance* of the market for so many other aspects of life. I'm wondering if any of these environmental advocates grappled with these sorts of issues. Did they make explicit arguments for why clean air should be a right, for example, but not housing or healthcare? Or did they make any broader calls for the rejection of the market for other, arguably fundamental human needs, that went beyond environmental quality?

Another reflection I have is about the important story you tell about how the short-term game of bureaucratic politics yielded a long-term decline in confidence about the federal government. As the EPA sought to manage expectations, build and maintain public support, and fend off outright attacks, it often undermined its own legitimacy, and the legitimacy of the federal government more broadly. I think the story you tell here is compelling and one of the best discussions of bureaucratic politics I have ever read. I do wonder, though, about the extent to which some of the skepticism of the federal government was baked into the EPA from the very beginning. As authors like Richard Harris and Sidney Milkus have argued (e.g., in *The Politics of Regulatory Change*, 1996), many of the new regulatory agencies and laws that emerged in the late 1960s and '70s reflected the New Left's skepticism of centralized organizations and the fear, exemplified in people like Ralph Nader, of regulatory capture of those agencies. The US environmental regulatory system (in comparison to European nations, for example) is exceptionally open to citizen involvement. Administrative and environmental laws give citizens broad standing to sue. Citizens can change laws and practices through court decisions. And even if they do not win, lawsuits and the threat of lawsuits give citizens (or really, interest groups) the power to pressure agencies. Similarly, the EPA's origin and structure reflects a deep skepticism of federal government. The decision to create an independent anti-pollution agency, rather than a broader environmental and natural resources agency (common in other countries), was partly the result of a fear that pollution control would be subordinated to economic and resource development. And, of course, on the right, a fear of centralized government helped maintain a strong role for states in national pollution control. These are all aspects that you mention in the book, but it was not entirely clear to me how this broad, cross-ideological skepticism of centralized government and bureaucratic regulation, evident in early national environmental laws and institutions, interacted with subsequent bureaucratic politics that undermined the legitimacy of government intervention. Did the origins of the EPA and its associated laws undermine it (or the federal government) from the beginning?

The question I really want to ask is a bald-faced normative one: Should the US have done it differently in terms of the structure of the EPA and/or the broad allowances for citizen (i.e., interest group) involvement? The EPA has clearly been tremendously successful in many ways, especially in reducing air pollution. But our environmental laws have, of course, also been subject to paralyzing congressional deadlock in the last few decades. Moreover, ideas like the Green New Deal suggest a different set of questions than those that predominated around 1970. The most important questions now seem to be how to build new energy, transportation, and food and housing systems, not how to regulate a

production system that is already in place. As a result, the EPA, NEPA, etc. seem peripheral to cutting-edge progressive environmental policies. Or worse, they appear as obstacles to those policies insofar as they stop or slow the building of new systems. Given that the EPA has increasingly shifted toward considering economic factors (through use of CBA among other things) anyways, might it have been better to have created an environmental agency that was *less* independent and *less* exclusively focused on regulation? Would we have been better off with a pollution control program embedded in a broader environmental/natural resources/energy department? Please feel free to pass on this highly normative and speculative question, but it's one I've mulled over a lot lately, and I would be eager to hear whatever thoughts you have on it.

Response by Charles Halvorson, Accenture

Thank you to Keith Woodhouse and H-Environment for inviting me to participate in a Roundtable and thank you to my reviewers for such thoughtful engagements with my book. I am a little awed and a lot grateful.

At some point while I was working on the dissertation from which this book was based, my always sage dissertation advisor Betsy Blackmar pointed out that I was writing a politics of the possible. EPA leaders and staff did what they had to do to clean up the nation's air, namely embrace an economic logic of governance to justify interventions that led to marked improvement in air quality and public health. I stand by that core story, but, as Betsy would be the first to point out, it should not be accepted uncritically. From different angles, Christine Rosen, Jackie Gonzales, and Leif Fredrickson all point to the limits of centering EPA as the beleaguered hero of this history. This is a point well taken, and where I have slipped into treating EPA too much on its own terms, I welcome the correction. My greatest hope is that this book is a provocation for many more accounts of this critical and understudied subject.

Rosen rightly notes how much of the history of pollution abatement happened outside the regulatory arena—in the managerial innovation, voluntary industry standards, and beyond-compliance actions of the polluting companies. Were I to write this book again, I would have narrowed its scope to a subset of industries in order to devote more attention to the specific evolution of those industries on pollution control. I hope this has not been missed entirely, however, in the book as written, which does discuss the action of trade associations, companies, and consultancies in pollution abatement beyond solely reactionary responses to regulation.

Gonzales points out what we miss about pollution and its control if we keep the frame centered on the actors with the most political power. The rise of the environmental justice movement and its slow reshaping of EPA is acknowledged but understudied in this book. Thinking again about what I might have done differently, I could have picked specific communities to trace through this story to show the disparate impact of pollution and its control. I take heart that today's policymakers have also started to recognize their neglect of such communities and have taken steps to address the consequences of that neglect through equity provisions in legislation such as the Inflation Reduction Act.

Frederickson suggests what a broader lens on the history of topics such as neoliberalism and cost-benefit analysis might have revealed, including about EPA's own policymaking. The questions he raises are essential ones and I agree wholeheartedly that EPA deserves a larger role in the history of neoliberalism and other key twentieth century developments. I see EPA's story as a corrective to a purely intellectual history of political thought—a chance to explore how ideas mutate as they travel in and out of practice. Frederickson's question about the regulatory attitudes baked into EPA from its inception is a good reminder that EPA was cobbled together from existing agencies along with an influx of new staff. More fully connecting EPA's history to that of those predecessor

agencies is another revision I would make if starting anew. On neoliberalism in particular, I see EPA as an invitation to consider the Reagan administration (or at least the part represented by Anne Gorsuch) as more anti-liberal than neoliberal in its deregulatory actions. EPA tracked a key shift in conservative politics from Nixon to Reagan that could be said to culminate in Trump—a reactionary philosophy that has often found political traction but has a poor track record in guiding actual governance. I will have to plead ignorance on the fuller history of CBA alternatives (Elizabeth Popp Berman's recent book, *Thinking Like an Economist*, would be a good reference) and how the environmentalists who argued that clean air should be a right viewed health care and other essential matters.

Frederickson's final question—what should the US have done differently on pollution control—is perhaps the ultimate test for a narrative about the politics of the possible. Looking back on potential alternatives with the benefit of hindsight and in the context of a worsening climate emergency, I think most about the history of less-polluting technologies: solar, EVs, etc. Would a more holistic Department of the Environment been able to hasten the shift away from fossil fuels we're belatedly making? EPA has always had more sticks than carrots in its toolbox, and it's interesting to consider what a larger agency with a purview of energy, pollution control, and maybe even transportation might have done during the oil crises of the 1970s to jumpstart renewables, electrification of mobility, etc. as a means of energy security. But, rightly or wrongly, I keep coming back to an agency that did what it could with the tools that it had to give us a fighting chance on the environment today.

About the Contributors

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Keith Woodhouse is an associate professor at Northwestern University, where he teaches in the History Department and directs the Environmental Policy and Culture Program. He is the author of *The Ecocentrists: A History of Radical Environmentalism*.