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Paul W. Hirt, *The Wired Northwest: The History of Electric Power, 1870s-1970s* (University Press of Kansas, 2012). 978-0700618736

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Introduction by Jacob Darwin Hamblin, Oregon State University

Driving eastward from Portland, Oregon, in the shadow of Mount Hood, it is easy to get the feeling of entering a gorgeous wilderness, away from human development. On the right, the verdant cliffs and hills of the Cascades. On the left, the wide Columbia River, flowing toward the Pacific. Depending on your mood, the scene can take on mythic proportions—so huge are the cliffs, so tall the trees, so impressive the river. A few miles later, any thinking person has to make some sort of adjustment, as the Bonneville Dam comes into view. The scene is no less breathtaking. The dam appears as a fortress. It is a wall of gray, holding back immense pressure, and when the water flows, its violence is captured by brilliant white foam, amidst the majesty of the area's natural beauty. For the imaginative, the sight is downright Tolkienesque.

Such constructions have been the historical backbone of reliable electrical power in the Pacific Northwest—a region that includes Canada's British Columbia and the U.S. states of Washington, Oregon, and Idaho. Many of these behemoths were envisioned and built long before there was sufficient demand to justify them. They contributed to a regional electrical network that crossed state and international borders, while making permanent alterations to existing natural systems. It is just the kind of complex story that environmental historians are ideally suited to tackle. "Wiring" such a vast region meant transforming nature and mobilizing capital and people, while creating private/public partnerships, state and international rivalries, and often enormous profits.

In *The Wired Northwest*, Paul W. Hirt provides a sweeping history of the region's electrification network. He shows how powerful corporate and state interests behind electricity projects collided with other groups, including indigenous peoples, politicians, and other industries (such as salmon fishing). Because many of the utilities were publicly owned, the story provides a useful lens for exploring how these contentious stories played out, when the notion of public good was contested by so many different people. Hirt's ambition is to use history as a guide, seeing the experience of a century's worth of hydropower to inform debates about a sustainable future.

I asked **Eve Vogel**, a geographer at the University of Massachusetts, Amherst, to comment on *The Wired Northwest*. She shares with Hirt a deep interest in the Columbia River system, including its use as a means of promoting regional identity. In her work Vogel has pointed out how that sense of identity was carefully crafted for political purposes by New Deal-era planners. Calling for a blend of "critical geographic perspective with careful historical research," Vogel writes that we

should carefully re-examine how and why notions of region are promoted and practiced over time.¹

Adam M. Sowards, an associate professor of history at the University of Idaho, has a deep knowledge of the tension between large-scale development and public good. His study of Supreme Court justice William O. Douglas, who favored a “bill of rights” for wilderness and argued for public hearings on development issues, reminds us that the public/private divide is only one aspect of large-scale technological systems. Douglas was critical of excessive road-building, he tried to protect wilderness from development, and he strove to ensure that citizens’ voices were heard. He also was skeptical that state-run organizations, such as the Army Corps of Engineers or the U.S. Forest Service, could be counted upon to reflect the public interest.²

Donald C. Jackson, a professor of history at Lafayette College, has written extensively about hydroelectric power, particularly on dam building. In a study of John S. Eastwood’s attempts to develop the multiple-arched dam, Jackson observes that design choices are not mere technical issues. Instead, they reflect financial interests, inertia, and a great deal of political machination. The dams themselves are an essential part of the story. Eastwood’s dams were less expensive, and ultimately they entailed less bureaucratic control. Jackson suggests that the opposition to them came from the state agencies and engineers who would have less of a role, or stake, in them.³

Our final commentator is **H. V. Nelles**, the L.R. Wilson Professor of Canadian History at McMaster University. In his influential 1974 book, *The Politics of Development*, Nelles showed how the government of Ontario, despite the appearance of maintaining control of economic development, deferred to the decisions of private businessmen. Not only did this put public projects into the hands of industry, it enriched American investors who played the competing goals of governments in Ottawa and Washington against each other. More recently, Nelles has shown how even iconic wilderness areas, like Banff National Park, have been made to serve functions for economic development, particularly hydroelectricity.⁴

¹ Eve Vogel, “Defining the Pacific Northwest among Many Possibilities: The Political Construction of a Region and Its River During the New Deal,” *Western Historical Quarterly* 42:1 (2011), 28-53.

² Adam M. Sowards, *The Environmental Justice: William O. Douglas and American Conservation*. (Oregon State University Press, 2009)

³ Donald C. Jackson, *Building the Ultimate Dam: John S. Eastwood and the Control of Water in the West* (Lawrence: University Press of Kansas, 1995).

⁴ H. V. Nelles, *The Politics of Development: Forests, Mines and Hydro-Electric Power in Ontario, 1849-1941* (McGill Queens University Press, 2nd edition, 2005); Christopher Armstrong and H. V. Nelles, *Wilderness and Waterpower: How Banff National Park Became a Hydro-Electric Storage Reservoir* (University of Calgary Press, 2013).

Before turning to the first set of comments, I would like to pause here and thank all the roundtable participants for taking part. In addition, I would like to remind readers that as an open-access forum, *H-Environment Roundtable Reviews* is available to scholars and non-scholars alike, around the world, free of charge. Please circulate.

Comments by Eve Vogel, University of Massachusetts, Amherst

Paul Hirt's book *The Wired Northwest* marks an important contribution to the historiography both of the Pacific Northwest, and of electrical systems. But it is his use of this study to think through the meanings, significance and imbrications of government, the public good, and private gain in US and Canadian history and society that constitutes this book's strongest contribution, and potentially its most provocative.

In the historiography of the Northwest, Hirt's book complements an array of existing work. Many books on the Northwest have focused on the Columbia River, its salmon, and its federal dams, and almost all of these make reference to the vast electricity produced by those dams. No one, however, has previously investigated the story of electricity in the Northwest from its origins in the 1880s through the 1970s (and Hirt even mentions some more recent events and changes), or explained the complexities of electric institutions and regulations over time across the Northwest's three core states, one province, and two countries. In doing so, Hirt explicates important aspects of the region's character and history. He shows that although the Northwest was a hinterland in both the United States and Canada, with an extractive or staples economy well into the twentieth century, in electricity it was in the vanguard, with cutting-edge generators (especially hydropower), early long-distance transmission, and large-scale regional grids.

Northwesterners were also innovative, though eclectic, in creating electrical institutions. Notably, they founded, and have supported over many decades, scores of publicly and cooperatively owned utilities. However, they also retained strong investor-owned utilities, and the region's electrical system by the 1950s had both kinds of ownership settled into unusual parity, entwined in both rivalry and cooperation. Northwestern cities, industry, and culture grew up as electricity was developing into a ubiquitous and then universal resource, and urban growth often followed electrical lines and electrical trolleys, while pump irrigation shaped industry and culture in arid rural areas like the Snake River plain. Cheap hydropower illuminated and motorized mines in the mountainous hinterland by the early twentieth century, and in the mid-twentieth century dotted the region with aluminum and other electrolytic processing plants from Vancouver, Washington to Trail, British Columbia. Finally, because most of this electricity came from falling water, that Northwesterners came to engage with rivers and river policy as a central part of their identity, ongoing conflict, and civic culture.

Hirt also makes an important contribution to the study of electrical power systems – or, more broadly, of systems variously known by monikers such as “sociotechnical systems,” “large technical systems,” and “complex infrastructures.” Building on the seminal works of authors such as Thomas Hughes, Richard Hirsch, and David Nye, Hirt emphasizes the key roles of technological limits and technological change, the leadership of powerful financiers, the structuring influence of electrical regulatory

systems, the transformative potential of economic and other crises, and the linkages between electrical development and cultural change. But more than many others, he brings to the fore the repeated interventions of citizen and customer groups, who insist that such a fundamentally useful resource as electricity must also be accessible, affordable and reliable for broad publics. Out of repeated advocacy movements grow crucial governance institutions and practices – most centrally, in Hirt's tale, state and later provincial regulation of investor-owned electrical companies. Hirt also elevates these governance institutions in analytical importance. State and provincial utility commissions have at different times either allowed excessive profits and inefficiency, while ensuring only basic levels of service; or, alternatively, have grown a "backbone" (p. 321) and enforced a regimen of wise investment by companies and low rates for customers. Hirt's tracing of the historical changes *within* these institutions marks some of his most original and significant research. In short, Hirt shines a light on the crucial historic role of citizen, customer, and government regulators' *agency* – something that is too often limited or missing in depictions of socio-technical systems' complexity and inertia.

These last points sit at the heart of Hirt's most important contribution: his use of the history of Northwest electrical systems as a window into fundamental public policy debates about the "the dynamics of problem-solving, governance, and the tense relationship between producers and consumers, between profit-seeking and the public interest" (p. 2). Hirt's book, in other words, is not only about the Northwest and electricity; it is about how we as citizens and customers, representatives of business and government, negotiate one of the central balancing acts of any capitalist society, between private gain and public benefit. Though he does not hammer this point (he mentions it only briefly in the concluding chapter), Hirt's interest in this negotiation is clearly partly a response to current politics, in which so much right-wing and libertarian-populist rhetoric is oriented to accusing government of interference, while private enterprise is extolled as efficient and productive. He is also mindful of activists and scholars on the left who disparage any kind of private ownership, or capitalists and capitalism of any stripe, as anti-public.

Hirt's first, and more innovative, intervention is to argue that public and private are neither so different nor so separate as the "partisan attitudes" of today's pundits claim. "Corporations and government agencies, along with nongovernmental organizations (NGOs), are the institutions we create to deal with large complex tasks.... Neither seems to be inherently superior to the other. Nor are they necessarily at odds...." (p. 6). To begin, he shows that public policy regarding electricity has again and again worked to enable and support private business, because private business has been seen as helping to build prosperity and social improvement. Here, Hirt's work echoes that of Eric Freyfogle, who says "goodbye to the public-private divide,"⁵ showing that public lands are, among other things, meant to protect long-term access to natural resources for a variety of private

⁵ Freyfogle, Eric T. 2006. Goodbye to the public-private divide. *Environmental Law* 36 (1): 7-24.

individuals and businesses, while private property is protected by public law in large part because it is seen as a societal, that is, public, good. Hirt shows, for example, that in the late nineteenth and early twentieth centuries, cities and towns offered franchise agreements to electric companies, in order to bring new technologies, jobs, employees and profits to their downtowns. In the 1910s, states began to regulate private utilities after the captain of the electric industry himself, Samuel Insull, came up with the idea. Until the era of regulation, different electric producers had been bitter competitors, and the volatility of expansion, bankruptcy, and takeover was as bad for investors as it was for customers. Under state regulation, electric companies were deemed “public utilities,” granted monopoly territories, and guaranteed a profit. Investors’ wealth soared and economies boomed. Even when cities and towns, states, provinces and federal governments took over ownership of electric systems, it often furthered business development. This was true when cities and towns developed municipal systems in the 1900s, 1910s and 1920s; when the US federal government stepped in during the 1930s, in the New Deal, to build dams on the Columbia River and create a regional federal power agency to sell their power, the Bonneville Power Administration; and when a conservative government in British Columbia took over a large, healthy, privately owned utility, creating BC Hydro, so it could build large dams in the remote provincial interior that were beyond the private company’s ambitions. In each case, government takeover meant electric power production increased (in the latter two cases, skyrocketed), and business boomed.

Within these stories, Hirt further complicates usual government-versus-business assumptions by breaking apart the uniformity and allegiances of both poles. He shows “business” or “capital” is not one thing: electric companies and their large business customers often had opposing interests, as did cutthroat rivals within the electric industry in the pre-regulation days. Similarly, governments were not all the same: local, state and federal governments had different interests and authorities in relation to the electric industry, and at different moments some were more corrupt while others more honest and protective of the public interest. Finally, the notion of “public interest” itself changed over time and space. Hirt notes, for example, that environmental protection was not a major public goal in the early decades of the electric industry, but by the 1960s and 1970s, it had become a leading consideration in Northwest power policy.

Despite Hirt’s rhetoric of avoiding a position on the partisan divide, he ultimately comes down quite clearly on the side of government involvement. This forms the second major response his history offers to today’s private-versus-public mudslinging. To anti-government partisans, this part of his argument might be dismissed as old hat. However, Hirt backs it up so well, with empirical historical detail that has been too long forgotten and rarely synthesized, and tremendous analytical insight, that it is in many ways the richest, most important part of the book. Hirt shows that government action not only furthered business success, as described above; it also advanced broader public values that sometimes ran counter to profit. This was true of both government regulation, and of government

ownership. On the regulatory side, state utility commissions often stepped in to enforce lower rates or wider service onto private electric companies than company executives wanted. Also, regulations from the federal government protected important public interests where the states lacked authority. Notably, the 1920 Federal Water-Power Act regulated the use of federal lands for dam sites, and the 1935 Public Utility Holding Company Act halted the unbridled acquisition of local utilities by Eastern financial firms, and their pyramid-scheme financing. Additionally, during both world wars, the federal government also required electric companies to link to one another, leading to larger, more robust and complementary grids. On the ownership side, it was not necessary for government to own all electric provision or infrastructure. The prospect of expansion of publicly owned power often compelled privately and investor-owned companies to lower rates and broaden service.⁶ Partly because of this, private owners and investors in the electric industry undertook large-scale campaigns of attack ads and lobbying against government provision of electricity, using language remarkably reminiscent of vitriol today. However, government again stepped in to aid public interest against corporate profit: federal investigative research exposed the electric industry's use of customer rates to fund propaganda and slander campaigns, and galvanized public outcry.

With these two major arguments, then, Hirt contends that Northwesterners – and Americans and Canadians more broadly – have, on balance, negotiated quite successfully between private and public, often by supporting the collaboration of business and government; and have constructed a variety of useful governmental tools that have generally aided that effort, including ensuring that public values are met. Hirt's optimism is both refreshing and provocative in the face of today's ideological battles.

Critics might suggest, with some legitimacy, that Hirt seems to accept, even cheer, the entwinement of public and private a bit too wholeheartedly. Some of his chapters offer much stronger critique than the book's tenor as a whole, and do a better job of highlighting the intense exploitation and conflict embedded in Northwest electric history and policy. But if Hirt's optimism raises questions, it is his evidence showing the importance of government institutions in ensuring public benefit and accountability, and of the citizen and customer movements that have built those institutions, that rises in importance. Partly following Hirt, I couldn't help but think through how his exposition might inform policy today. Surely one implication is that we should not be throwing away the regulatory institutions and

⁶ Though not his language in the book, in one conference presentation (Hirt: Public Interest and Private Profit in the Northwest's Hydroelectric System, 1900-1930, ASEH 2009, Portland, OR) Hirt suggested an analogy with more recent public policy debates. Publicly owned electricity, in effect, provided something like the proposed "public option" that did not make it in to the 2010 US Affordable Care Act. (FDR called federal power a "yardstick" against which to measure the quality of electrical service) Hirt's history suggests such an option could have put effective pressure on insurers to lower rates and broaden service.

public ownership that were created in days of yore without careful thought. It is heartening that state utility commissions have in many states been renewed and strengthened with the advent of renewable portfolio standards and cautiously deregulated electric markets. On the other hand, it is dismaying that Congress was able to terminate the Public Utility Holding Company Act in 2005 with barely any public notice,⁷ and that recent improprieties in the Bonneville Power Administration's hiring practices seem to have been used as an avenue to attack the Northwest's longstanding federal provider of Columbia River electricity much more fundamentally.⁸ If Hirt's research suggests that citizen and customer are crucial, it seems doubly concerning that the greatest activism today seems oriented to dismantling the regulatory state which Hirt finds so valuable.

Partly because of my own concerns about the present, what I found myself wishing for was more detail on how the important institutions Hirt portrays were built. Hirt gives us enough information to know that part of how it happened was through the action of particular individuals and advocacy coalitions – whether savvy investors like Samuel Insull in the 1910s, responsible public servants like the Oregon Public Service commissioner Charles M. Thomas in the 1930s, or the Washington Environmental Council, which forced the city of Seattle to study the environmental impacts of a major nuclear power buildup in the 1970s. He also points to the crucial opportunities for change that came from economic and political crisis – especially the Great Depression, two world wars, and the 1970s energy crisis. But how did individuals and advocacy coalitions garner the support and stamina to effect important change in the face of often fierce resistance? Perhaps it's too much to ask amidst such an ambitious historical synthesis, but I wished for greater exposition of the individual agency and mechanisms by which this happened some of the time, and not others, that might help us think through what is possible today. Perhaps a sequel?

⁷ For one commentary, see TocqueDeville 2005: "Senate Votes to Gut the New Deal and No One Notices." Daily Kos, 29 June. <
<http://www.dailykos.com/story/2005/06/29/126605/-Senate-Votes-to-Gut-the-New-Deal-and-No-One-Notices>>

⁸ See e.g. Ted Sickinger 2013: Congressional hearings will look at Bonneville Power Administration's 'systemic' problems. *The Oregonian*, 1 Aug. <
http://www.oregonlive.com/business/index.ssf/2013/07/congressional_hearings_will_lo.html>

 Comments by Adam M. Sowards, University of Idaho

A History of Utilities; The Utility of History

The hyperbole is palpable. A partisan trade journal loudly proclaims that government intervention is but a thinly veiled attempt to “socialize all industry and thereby reach their objective of complete socialism.” Meanwhile, a partisan officeholder in a widely publicized speech was heard arguing, “When the interests of the many are concerned, the interests of the few must yield.”⁹ The shots and volleys continue until exhaustion after which there is a regrouping and then they renew their energy and retrace their steps across the political (and rhetorical) landscape. In the United States especially, we’ve become familiar with this back-and-forth argument that *any* government involvement is tantamount to a Marxist revolution or the counter that government merely is protecting the public from the voracious and bottomless appetites of capitalists. The rhetoric above is not taken from Fox News and MSNBC during the 2012 election cycle. Instead it is extracted from the interwar debate about the role of public power in electricity generation and distribution, proving perhaps once and for all that there is nothing new under the sun.

A casual reader browsing bookshelves could be forgiven for thinking that Paul W. Hirt’s latest book is a narrow historical study. This would be a mistake. *The Wired Northwest: The History of Electric Power, 1870s-1970s* is an ambitious and useful book. In reconstructing the ways the electric power system originated and evolved, Hirt reveals a complex story of technological and financial innovation, cultural and social transformations, and regulatory inventiveness. In *The Wired Northwest*, Hirt makes visible something so common—electricity—that it has become virtually invisible to us. Indeed, as he points out, we notice electricity pretty much only when it doesn’t work.¹⁰ Rendering electricity visible is no mean feat. And in doing so, he travels through loads of history, including histories of technology and of gender, of region and of regulation, of salmon and of indigenous people, of financiers and of conservationists. Hirt also integrates three U.S. states and a Canadian province. Considering all of this together, it is easy to see how ambitious, how big, how useful this book truly is.

As an environmental historian of the Pacific Northwest, I find much to recommend in and appreciate about *The Wired Northwest*. It builds on regional work in energy

⁹ Paul W. Hirt, *The Wired Northwest: The History of Electric Power, 1870s-1970s* (Lawrence: University Press of Kansas, 2012), quotations from 213, 226. The trade journal in question was *Electrical West* in 1928; the politician was Franklin D. Roosevelt in 1932.

¹⁰ Hirt, 1.

history, such as Matthew Evenden's *Fish versus Power*, Karl Boyd Brooks' *Public Power, Private Dams*, and Richard White's *The Organic Machine*.¹¹ Hirt frames his study much more broadly, in a sense providing larger contexts for those earlier and more specialized histories. Rather than a single river or a single controversy, Hirt's study examines dynamics of production and consumption, political economy, and the region's place in larger national and even continental histories. Here, he fleshes out and extends the work of scholars like H. V. Nelles and Martin Melosi, whose work has done much already to situate energy history in Canada and the United States respectively.¹² For those of us who do regional environmental history, we seek to balance how the region illuminates national trends and how it offers something distinct. Hirt does this well. For instance, *The Wired Northwest* makes the case that the regional power profile is distinct, because geography blessed the region with easy hydropower development, which has meant comparatively low electricity rates, which in turn has meant comparatively high consumption rates. Such a history shows ways that nature powerfully shapes economic development and consumer behavior.

In addition, the book illuminates the unique system that developed over the course of a century that included both public and private power in a way that was initially competitive and combative but that ultimately became complementary. Since the 1940s, the Bonneville Power Administration has been the largest integrating force incorporating all types of power into its vast technical system. Hirt characterizes this as a hybrid system. In showing where and when public power dominated or private power dominated and how those relationships shifted over time, Hirt draws our attention to how systems are fundamentally historical. That is, they developed over time because of deliberate decisions by business and government and not through some inevitable, ahistorical process. Providing this sense of history is such an obvious task of historians that we sometimes forget it in our larger culture that is decidedly not rooted or trained in historical thinking. So, careful historical reconstruction like Hirt's merits special attention.¹³

Further, *The Wired Northwest* shows regional shifts in priorities, especially over issues related to social justice and the environment. For example, British Columbians kept the Fraser River free of dams, as Evenden showed so well almost a

¹¹ Matthew Evenden, *Fish versus Power: An Environmental History of the Fraser River* (Cambridge: Cambridge University Press, 2004); Karl Boyd Brooks, *Public Power, Private Dams: The Hells Canyon High Dam Controversy* (Seattle: University of Washington Press, 2006); Richard White, *The Organic Machine: The Remaking of the Columbia River* (New York: Hill and Wang, 1996).

¹² See for instance, H. V. Nelles, *The Politics of Development: Forests, Mines, and Hydro-Electric Power in Ontario, 1849-1941*, 2nd ed. (Montreal: McGill-Queen's University Press, 2005); Martin V. Melosi, *Coping with Abundance: Energy and Environment in Industrial America* (Philadelphia: Temple University Press, 1985).

¹³ Sam Wineburg, *Historical Thinking and Other Unnatural Acts: Charting the Future of Teaching the Past* (Philadelphia: Temple University Press, 2001).

decade ago, and U.S. states belatedly recognized indigenous rights to fish, as Katrine Barber and others have recently described.¹⁴ These actions, imperfect and incomplete to be sure, recognized incompatible uses with the hydro-electrical infrastructure that developed in the binational region. What had not even been an afterthought at the turn of the twentieth century became by the 1970s an overriding focus for the region's environmental and social history. Readers familiar with these histories will not find new details in Hirt's treatment, but they will be able to place them in a broader historical and geographic context. Other developments, of course, fill the pages of *The Wired Northwest*; these three topics are simply an offering of the ways Hirt's book brings important environmental and historical perspectives to the Northwest's sociotechnical system of electricity.

What sticks most with me from the book, however, is its implicit reminder of governments' roles in structuring sociotechnical systems and communities' relationships with them. These systems are embedded within our economic and political systems, which are, of course, human and historical creations. Moreover, Hirt is to be congratulated for reminding readers that these systems are also embedded in environmental systems. As much as anything, Hirt argues that governments intervene to serve various functions in mediating society's relationship with sociotechnical and natural systems. Furthermore, these interventions originate to serve specific social purposes; that is, the public demanded assistance.

Rural electrification is a case in point, one that Hirt uses to show greater complexity than we typically realize. We know that electrification lagged in rural areas. Nationally, only 14.3 percent of farms in the 1930s had electricity, although the Northwest in 1936 was better off with Washington hovering at 54 percent, Oregon at 44, and Idaho at almost 30. Canada was worse, although statistics were less clearly available.¹⁵ For-profit utilities built into rural areas only when profits seemed assured. Obviously, rural markets were smaller; serving them cost utilities more; and so they charged higher rates. The situation seemed intolerable, but utilities required incentives to change the status quo. Since the very definition of modernity had come to hinge on access to electricity, policymakers saw the situation as inequitable and tried to resolve it. The U.S. Congress passed the Rural Electrification Act, which furnished "low-interest, long-term loans."¹⁶ The REA helped local cooperatives form, but commercial utilities succeeded in sharply limiting the law's transformative power, effectively keeping co-ops small and curtailing their ability to expand. Hirt summarized the perspective of these dogged but effective rural co-ops: "Members of these co-ops were generally proud of their accomplishments. Moreover, they usually had chips on their shoulders about the

¹⁴ Evenden; Katrine Barber, *Death of Celilo Falls* (Seattle: University of Washington Press, 2005).

¹⁵ Hirt, 250.

¹⁶ Hirt, 254. Rural electrification took longer in British Columbia, becoming essentially a postwar effort. See Hirt, 319-24.

commercial utilities, not just because the companies originally refused to extend them service, but because the success of their co-ops showed unequivocally that electric service was feasible. To them, stubbornness or greed seemed the only real obstacle to serving their farms and communities.”¹⁷ And that was the point to many: government pressure was the only thing to counter the market failure that kept too many farms in the dark. Historians, including Hirt, might do well to uncover such market failures even further to make our work more relevant to contemporary issues. One also wonders if there are policy failures at work that require greater examination.¹⁸

Besides incentivizing and facilitating new service, government was called on to regulate utilities. Around the turn of the twentieth century, the arrival of electricity revolutionized regional life, and its rapid dispersal and technological innovation meant prices dropped and service improved. As utilities blanketed the region’s cities, though, concerns arose, because service was not always good, did not reach everyone, and seemed expensive to many consumers. Even more importantly, perhaps, the monopoly power utilities wielded in many locations threatened democratic prosperity.¹⁹ Dissatisfied consumers, then, turned to government, something they had increasingly started doing in the 1890s and after when they concluded that modern social and economic challenges demanded political responses. Businesses had grown faster than political institutions, and the Progressive movement sought to rectify this situation by capturing the public’s energy to reign in abuses.

These two extended examples—rural electrification and Progressive-era reform—are small but representative of the two primary ways governments interacted with utilities. They helped promote electricity, not only through rural electrification legislation but also with municipally- or federally-controlled supply. They also helped regulate investor-owned utilities. Much as the region exhibited a hybrid system of both public and private power, a hybrid system developed whereby private utilities accepted regulation in return for access to cheap power supplies (e.g., bought from Bonneville Power Administration) in exchange for predictable profit.²⁰ Although Hirt seldom makes such comparisons or draws out analogies, it

¹⁷ Hirt, 260.

¹⁸ I have found Theodore Panayotou, “ from *Green Markets: The Economics of Sustainable Development* (1993) in Glenn Adelson, et al., eds., *Environment: An Interdisciplinary Reader* (New Haven: Yale University Press, 2008): 787-94, to be especially useful as an introduction to market and policy failures.

¹⁹ Hirt, 105 outlines the common complaints well.

²⁰ Other work in the Pacific Northwest has used hybridity to explore the ways human technologies and the natural environment blend. Although he might have, Hirt did not discuss the “hybrid landscape” created in the region as Mark Fiege did with irrigation or the “organic machine” created by Columbia River dams described by Richard White. See Fiege, *Irrigated Eden: The Making of an Agricultural*

seems that such connections might be a fruitful line of investigation. In what ways did other industries experience similar relationships with government? How did other so-called “natural monopolies” compare with the electric system?²¹ Reading *The Wired Northwest*, it is easy to conclude that without government, the system would have failed to achieve socially positive results. Or, as Hirt puts it, “The development of regulatory institutions is a direct outcome of this creative and constantly evolving effort to achieve social goals and solve problems through the combined tools of market capitalism and government policy.”²² This dynamic relationship between capitalism and government remains arguably the central force in shaping environmental history throughout all modern societies with their sociotechnical systems. I wonder how much more explicit Hirt might have been in highlighting this central issue to drive home to contemporary partisans, especially those who bemoan government meddling in markets. Doing so further, Hirt may have extended the significance of his historical argument (to other industries) and the implicit contemporary argument (to issues today).

None of this is to accuse Hirt of being hopelessly biased in his interpretation that explains and, in many cases, appreciates government intervention or of having a hidden political agenda. Indeed, his careful research and nuanced interpretations are models of restraint given how polemical such a topic might be—and has been historically. Yet, it raises the question not so much of objectivity but of utility.²³ What is history’s use? This is not the first time environmental historians have faced this question, for ours is a discipline that seems almost inherently useful.²⁴ As Hirt himself writes, “History is instructive.”²⁵ But instructive of what, and, to what extent? As environmental historians who investigate the creation and consequences of sociotechnical systems, we are in the position to watch this historical process unfold and to draw inferences about the nature of those systems, as well as who or what benefited or lost because of them. But what are the limits to such instructiveness? How do historians who work in the recent past navigate, with care, comparisons or analogies to the present? In his conclusion, Hirt explores some of these questions, but could he have gone further? For example, should—and if so,

Landscape in the American West (Seattle: University of Washington Press, 1999); White.

²¹ Hirt, 120 explains natural monopolies.

²² Hirt, 369.

²³ On historical objectivity as an elusive ideal, see Peter Novick, *That Noble Dream: The “Objectivity Question” and the American Historical Profession* (New York: Cambridge University Press, 1988.).

²⁴ William Cronon, “The Uses of Environmental History,” *Environmental History Review* 17, no. 3 (1993): 1-22.

²⁵ Hirt, 13. Hirt and I make the same point, in the same language, in a different context in our co-authored essay, “The Past and Future of the Columbia River,” in *The Columbia River Treaty Revisited: Transboundary River Governance in the Face of Uncertainty*, ed. Barbara Cosens (Corvallis: Oregon State University Press, 2012), 115.

how—an environmental historian of sociotechnical energy systems weigh in on a contemporary issue like the Keystone XL pipeline that demands government facilitation and regulation, as past energy systems have required? This isn't at all to suggest that Hirt should have weighed in on Alberta's controversial tar sands endeavor—that wouldn't have been appropriate—but to raise the more general question of how historians can bring their perspectives to bear on pressing contemporary events.

Let me return to the shouting partisans. These days, conservative commentators frequently liken President Barack Obama's environmental agenda to socialism.²⁶ The President responds with a strong assertion that his opponents are mere tools of special interests while he and his party work simply for the public good of the middle class.²⁷ Now, as then, partisans miss the forest for the trees. Rather, these days it seems that if one side sees a forest, the other declaims that there has never been even a tree anywhere at any time. As Hirt shows using the development of electric power in the Northwest, the market and government regulation grow up hand-in-hand because of real hopes, needs, and desires by real people in real time in real places. There are no conspiracies. Legitimate businesses do not set out to defraud all Oregonians or British Columbians. Legitimate governments do not set out to establish a tyranny to crush the freedom of Washingtonians or Idahoans. Markets and policies evolve together and sometimes fail and are imperfect human institutions. Hirt reminds us again and again of the real trials, achievements, and on-going challenges such a complex sociotechnical system creates.

²⁶ An example is Charles Krauthammer, "Obama Unbound: Our President Wants to Undo Everything Reagan Ever Did," Fox News, January 24, 2013 (<http://www.foxnews.com/opinion/2013/01/24/obama-unbound-our-president-wants-to-undo-everything-reagan-ever-did/>, accessed March 6, 2013).

²⁷ An example is Barack Obama, "Weekly Address: Congress Must Compromise to Stop the Impact of the Sequester," Office of the Press Secretary, March 2, 2013 (<http://www.whitehouse.gov/the-press-office/2013/03/02/weekly-address-congress-must-compromise-stop-impact-sequester>, accessed March 6, 2013).

Comments by Donald C. Jackson, Lafayette College

The Pacific Northwest is distinctive region of the United States, renowned for its verdant forests, mild climate (at least west of the Cascade mountain range) and surging rivers replete with historically large runs of spawning salmon and other anadromous species. The region also possesses an enormous hydroelectric power infrastructure providing businesses and consumers with an abundance of (relatively) cheap electricity that, in the years after the New Deal, came to dominate its political economy. With the completion of the Grand Coulee and Bonneville dams at the advent of World War II—and the post-WWII construction of other major hydropower dams in the Columbia and Snake River watershed—the Pacific Northwest became a major manufacturing center with a distinctive emphasis on aluminum smelting and aircraft production. Other parts of the United States also looked to hydroelectric power as a key element of commercial/industrial growth in the first part of the 20th century (e.g. the connection between Hoover Dam and greater Los Angeles), but no other region could draw on a hydropower potential comparable to that offered by the Columbia/Snake system.

Of course, the Pacific Northwest straddles an international border and the province of British Columbia has shared in the development of regional hydroelectric power development. This sharing has taken on particular significance because, upstream from the Grand Coulee Dam, the Columbia River extends over the border and a considerable portion of the river's watershed lies within British Columbia. Early on, the development of electric power systems in the US and in Canada followed separate paths. But after World War II, when exploitation of the entire watershed's hydropower capacity became a collective goal, the US and Canada joined in a treaty to guide the river's power potential.

Paul Hirt has taken on the imposing task of explaining how the Pacific Northwest became "wired." The story he tells encompasses two countries (if not two cultures) and is not a simple one. It extends from the electric power industry's beginnings in the late 19th century, when investor-owned utilities led the way in bringing the bounty of electricity to urban consumers, through nascent system building in the early twentieth century when economies of scale and the benefits of load diversification drove utility interconnection, through the coming of President Roosevelt's New Deal initiatives to make the federal government a primary player in both the construction of huge hydropower dams and in the regional transmission of power under the auspices of the Bonneville Power Administration. Just as the Grand Coulee and Bonneville dams came on line at the end of the 1930s, the tumult of World War II brought a new purpose to the Northwest's electric power industry and created a manufacturing juggernaut that no one anticipated when the big federal dams were authorized in the early 1930s. In ways hard to imagine today, the decisions to invest in Grand Coulee and Bonneville were not infrequently criticized as wasteful expenditures of taxpayers dollars; they were lambasted as politically-

driven projects that would do little more than create deficit plagued “white elephants” benefiting non-existent customers. But within a few years, these “white elephants” became models for a succession of mid-century hydropower dams.

Stretching out for more than three quarters of a century, the huge narrative is not easy to present all in a single volume, with Hirt relying upon a vast reservoir of secondary sources. Some of these are company and organizational histories produced to chronicle a particular agency’s or firm’s success in meeting to needs of a (presumably) grateful customer base. Others lay out the general story of electric power history and its place in the political economy of the nation. Readers familiar with Thomas Hughes’ *Networks of Power: Electrification in Western Society, 1880-1930* (Johns Hopkins, 1983) will perceive that Hirt bases his analysis of early electric power history upon this seminal work; similarly, Richard Hirsh’s *Power Loss: The Origins of Deregulation and Restructuring in the American Electric Utility System* (MIT, 1999) provides the context for how Hirt analyzes the economic structure of electric power systems in the mid-to-late 20th century. More locally, Hirt relies in large part upon Matthew Evenden’s *Fish vs. Power: An Environmental History of the Fraser River* (Cambridge, 2007) for his treatment of hydropower development in British Columbia. And *The Wired Northwest* makes extensive use of in-house historian Gene Tollefson’s *BPA and the Struggle for Power at Cost* (Bonneville Power Administration, 1987) to explain the importance of the Bonneville Power Administration (BPA) in the growth and development of the post-New Deal electric power network.

It is understandable why Hirt looks to secondary sources as the basis for his expansive narrative. To do otherwise would entail a huge, time-consuming effort as, for example, the archives of major agencies such as the Bureau of Reclamation, the Army Corps of Engineers, and the BPA are voluminous and cover many decades. But a price is paid by relying almost exclusively on secondary sources and on pre-digested documents such as *BPA annual reports*. The story told by Hirt may be long and complex, but it takes on a familiar tone and emphasis for those who possess some pre-existing knowledge of the region’s electric power history. Hirt’s synthesis and analysis certainly have value in their own right, but they hew closely to stories told previously and, at least in this reviewer’s mind, Hirt struggles to find ways to bring his own voice and perspective to the material he covers.

The distinctive character of Pacific Northwest’s electric power industry is derived from the enormous amount of hydropower available in the region’s streams and rivers. And to capture this power it is necessary to harness it through the construction of penstocks, canals, and most especially dams. Dams lie at the heart of the region’s electric power grid and they represent a civil engineering technology that is quite different from the electrical technology used in building generators, transformers, substations and motors. Dams are also distinct from the mechanical engineering technology represented by the turbines used to spin the generators and energize the transmission lines. Hirt is not particularly interested in the specific technological character of the dams built in the Pacific Northwest, as he apparently

takes the region's various dams as a given. Bluntly stated, dams are dams and they seem to be pretty much interchangeable. I certainly appreciate that Hirt might see dam technology as something best left to others to explore simply because his already lengthy book could not begin to do justice to what was involved in building such behemoths as Grand Coulee, Bonneville, and a multitude of others. Fair enough. But in taking this perspective, the possibility looms that perhaps some important issues might pass unnoticed.

For example, the distinctive character of the concrete hydropower dams built by Seattle City Light along the Skagit River in the 1920s and 1930s receives no acknowledgement. In contrast to the massive concrete gravity dams of built by Stone and Webster (a private engineering firm closely tied to investor-owned utilities in Washington State), the Bureau of Reclamation (e.g. Grand Coulee) or the Army Corps of Engineers (e.g. Bonneville), a structure such as the city's thin arch Diablo Dam is particularly noteworthy in terms of its technology. The economically efficient, variable radius arch design used at Diablo represents some of the most innovative structural engineering evident in America during the 1920s. At least to this reviewer it would be interesting to learn something about how the municipally-owned power company (under the leadership of engineer/manager J.D. Ross) came to adapt it for a major public power project.

Beyond the notion that the topic might only be of interest to die-hard dam historians, it is easy to explain why *Wiring the Northwest* would exclude discussion of the technology used for the Diablo Dam design: it would require some archival digging and going beyond material published in generally available secondary sources. Diablo Dam represents an important story in the public vs. private rivalry that inculcates the development of the region's electric power development and for that reason alone it is not so arcane as to be inappropriate for inclusion in *The Wired Northwest*. But viewed more broadly, treatment of Seattle City Light's Skagit River dams reflects how the particular technologies (be they structural, mechanical, or electrical) that make up the power network are not critically examined by Hirt. He takes them as a given, something to be acknowledged as important but not something to be historically analyzed.

In place of technology, Hirt focuses on how political interests and desires drove (if not dictated) the character of the regional power network. And in this story, the importance of the federally-authorized Bonneville Power Administration is featured as the most politically important force in Pacific Northwest power development with Hirt relying heavily upon widely distributed BPA *annual reports* as well as the 1985 history of the BPA written by Gene Tollefson on behalf of the agency. So what we get is a considerable amount of information about how the BPA worked to encourage the creation and expansion of publicly administered electric co-ops and other non-private utilities and public utility districts, always striving to keep rates low and uniform throughout its far flung service area.

The BPA prides itself on being a publicly-oriented power provider, constantly stressing the public service component of its mission to the people of the Northwest. All well and good. But because Hirt depends so much upon publicly available material offered by BPA and its in-house historian Tollefson, his discussion comes across as rather sanitized and devoid of tension. In particular, his treatment of the giant federally-sponsored power initiatives of the New Deal and the post World War II era does little to examine in a critical way how energy from the great public power projects exemplified by Grand Coulee, Bonneville and the later federal dams was dominated (hijacked?) by the investor-owned ALCOA (Aluminum Company of America). Hirt certainly does not attempt to hide the fact that BPA contracts in 1940 provided 20,300 kilowatts of power to public agencies while over 160,000 kilowatts were guaranteed to ALCOA plants (p. 282); a year later, public power systems had contracted for about 30,000 KW while aluminum interests drew close to 300,000 KW (p. 292); and with US entry into the war in late 1941, the dominance of the aluminum industry and other wartime industries did not abate. The power system administered by BPA, while always supporting public power supply agencies, never separated itself from being dependent upon meeting the load demand of aluminum producers and other large-scale industries.

To be clear, Hirt does not deny the importance of investor-owned aluminum producers in taking control over the huge quantities of power generated at Grand Coulee and Bonneville dams. But we get only the barest, rudimentary facts about the place of aluminum producers in the region's burgeoning political economy during the war and post-war era. Here is where the book's reliance on secondary sources proves its limitations. What is needed is some digging in the BPA archives, and perhaps into the archives of Harold Ickes' Department of the Interior, and into whatever paper trail left by ALCOA that might be exhumed, all with the goal of establishing exactly how the aluminum industry developed in the region the way that it did. It would be a great chapter, and one that would fill a major void in our understanding of the modern Northwest's political economy.

Lest I wear out my welcome, I will bring this lengthy review to a close. In reading back over my commentary, I fear that perhaps I will come across as too negative in stressing how *Wiring the Northwest* is dependent upon secondary sources. Yes, I wish that Hirt had been able to break more new ground in his approach to the subject. But that should not keep us from appreciating both the remarkable amount of data he has assembled and his skill in fashioning a cogent and readable narrative that, for many years to come, will warrant the attention of any serious scholar interested in American electric power history.

Comments by H. V. Nelles, McMaster University

Electricity, an invisible force, remains largely unseen in our historiography as well. As someone who began thinking and writing about the interplay of technology, economy, resource endowments and political culture on a regional basis more than 40 years ago, you can imagine my pleasure at reading Paul Hirt's new book, *The Wired Northwest: The History of Electric Power, 1870's-1970's*, which brings this central nervous system, energizer of our society and re-shaper of our nature into clear historical focus.

In a sprawling narrative covering more than a century and filling more than 400 densely packed pages, Hirt presents electrification as essentially a socially constructed process. Technology does not dictate the story. Regional resource endowments, such as abundant rainfall and waterpower, influence outcomes but not entirely. Rather social and political forces play the major role in the location of facilities, the choice of technologies, the regulatory instruments chosen and the ownership of electric utilities in the northwest.

Moreover, he insists, hard wired systems are living things. "Despite their apparent stability," Hirt argues, "electric power systems are in fact constantly evolving in response to social, technological, and environmental opportunities and constraints." In his reading electric systems are profoundly human constructs. And it follows from this that the stakeholders - consumers, inventors, politicians, investors, builders, regulators, scholars, journalists, interest groups - have a legitimate say in system design, create distinctive, regionally-styled power regimes, and jointly share responsibility for outcomes.

Having given technological determinism the boot, Hirt also dismisses economic determinism. In his view there is no best or most efficient system public or private, bundled or unbundled. Rather his reading of history is a pluralist story of regional experimentation and adaptation, of "mixed co-operation and conflict," and locally variable social responses to system development. This leads him to the conclusion -- somewhat startling given the neo-conservative consensus surrounding contemporary discussion of electric utilities -- that "...regulation is a fundamental and necessary condition of a well-functioning complex system." He is quite explicit about his political agenda: "In this study I hope I have provided a foundation for resurrecting an appropriately positive understanding of the necessary and beneficial role of public regulation." Some form of public regulation is necessary, he argues, to balance economic requirements on the one hand and social goals on the other.

These declarations of argument and intent taken from the introduction and conclusion flow from and guide the thick description in the 12 chapters of narrative

in-between. He draws his evidence from a large region, the Pacific Northwest. From the theatre of electrification that began in Victoria, BC, in 1879, through local utility proliferation, modernization enthusiasms, regional amalgamation into large scale systems, engineering visioning, through New Deal megaprojects, wartime nuclear power, to the vast trans-border postwar construction of an integrated river management system on the Columbia, Hirt lays down the broad patterns governing the entire region as well as the specific ways in the separate jurisdictions - Washington, Oregon, Idaho and British Columbia - and in sub-regions within those jurisdictions, social, economic, political and technological impulses combined to create distinctive human-made electric institutions. The end result is an intellectually messy, mongrel regime of differences that nonetheless reflects the choices and values of the societies that made the systems and, despite the heterogeneity, manages at the meta level to interconnect and function as an effective super-power grid.

Forgive a small amount of chauvinism: in some respects it might be said that Hirt brings a Canadian-style political economy approach to the study of the electrification of the Pacific Northwest, which I think he would acknowledge. Readers of the Canadian literature on electrification would find much that is familiar about the methodology, interpretation and conclusions. But much more importantly, Hirt's work points in new directions consistent with what seems to be a broader reconceptualization of US history currently under way. And since this is an environmental history forum, his book reminds us how relatively recently environmental considerations entered into public policy deliberations.

For Hirt the Pacific Northwest includes British Columbia. Here he is following to some extent the environmental historians' traditions of using geographical units rather than national boundaries as the frame of analysis. Including BC also opens up opportunities for comparative study. But it turns out the national boundary during this period is not so much a line demarcating different kinds of electrification. Rather the regional variations observed in BC are consistent with the pluralist patterns he observes in nearby US states. Difference across borders in this telling are not fundamental, but rather nuances of timing, degree, and emphasis. Looking beyond the specific case of *The Wired Northwest*, it might be said in general that in recent years US history has begun to spill over the northern border. US historians have recently included aspects of Canadian history in their analytical frame. A far-from-complete list would include Mira Wilkins, Richard White, Donald Worster, Stephen Pyne, Alan Taylor, David Hackett Fischer, William Cronon, Maya Jasanoff, and John Mack Faragher. In my view this is an entirely welcome development. I see not so much the imperialism of US history, but rather its contemporary willingness to eschew exceptionalism, explore comparatives and search out alternative narratives. For generations Canadian historians have been anxiously peering comparatively southward measuring degrees of similarity and difference without being much noticed in the US. This recent broadening of the frame of US history begins to recalibrate the intellectual balance of payments and bring Canadian phenomena into the US historiographical picture when appropriate.

Hirt is a self-described environmental historian well known in the guild. Thus readers familiar with his work will be surprised by the relative absence of environmental considerations, narrowly conceived, in this book. As he notes ruefully near the end, "This is a progressive story, so long as one pays no attention to the environmental and social impacts of damming rivers, extirpating fisheries, mining and burning fossil fuels, polluting the air, depleting groundwater, accumulating nuclear waste, and building energy-inefficient homes and appliances while encouraging ever greater electrical consumption." These environmental concerns do not figure in his story because before the 1970's, as he acknowledges, "these problems were mostly ignored or accepted." *The Wired Northwest* reminds us just how recently environmental thinking penetrated public policy discussions. In this account environmental considerations were not among the social goals being traded off against corporate or political objectives. But this is nevertheless an important contribution to the field of environmental history. In these pages Hirt actually builds *The Organic Machine* and constructs the Crononesque "second nature" embodied in an electrical grid and the world it remade. He clearly describes the modes of thought and the public choices that refashioned nature in the Pacific Northwest along so many different dimensions and which to some extent still predominate.

As a scholar, Hirt has proved himself up to the research challenges posed by the scope of his ambition. But the scale of his subject and its broad time-frame have taxed the limits of even a large book. The compression of the entire postwar period into one breathless final chapter distorts the picture somewhat, de-emphasizing the rise of provincial ownership in the BC case and perhaps understating the extent to which the Columbia River Treaty and its subsequent co-ordinated hydro-electric development forged an integrated regional superpower grid extending even beyond the Pacific Northwest. But this is a long and already heavy narrative that need not be laden with more freight. As a long-time student of these affairs who learned much from this book I hope *The Wired Northwest* transcends its geographical boundaries, inspiring emulation and qualification in its application to other regions of the US and other parts of the world.

Response by Paul W. Hirt, Arizona State University

It is indeed an honor for my book, *The Wired Northwest*, to be the subject of a roundtable review. This roundtable format represents the best type of peer review available in our profession. There are lamentably few opportunities for scholars to write extended reviews (what can you really say about a book in 500 words?) and even fewer opportunities for authors to receive a group of extended reviews at once with an invitation to respond. Environmental historians owe Jacob Hamblin a great debt of gratitude for his labors over more than three years to solicit, organize, and publish these roundtable reviews—more than twenty of them since January 2011. I hope the tradition continues for a long time to come.

I thoroughly enjoyed seeing my work through the eyes of these four perceptive reviewers. I confess a profound sense of relief that they understood what I was trying to accomplish and acknowledged its value. There is certainly no guarantee that a reviewer will read one's work carefully, summarize it accurately, or endeavor to judge it fairly. So, my profound gratitude to Drs. Nelles, Vogel, Sowards, and Jackson for the time and care they put into their thoughtful assessments.

I especially appreciated the assessments by Nelles, Vogel, and Sowards of my book's contributions to a larger historiography and their reflections on its contemporary implications. I am gratified that Nelles recognized a Canadian-style "political economy" approach in my work. I am honored to be in that company. Anyone who knows me knows that I fully embrace the politics of our intellectual production as historians. I intentionally research and narrate stories that address present concerns. I write for a broader public with the aim of informing and hopefully influencing current policy and practice. Three of the four reviewers understood that and commented extensively on the takeaway messages in my analysis. Nelles noted my vigorous challenge to the prevailing neoconservative consensus that views government as the problem and free markets as the answer. Sowards and Vogel commented on how my study reveals the many ways that Northwesterners constantly negotiated the relationship between private wealth and public welfare, between capitalism and democracy. I consciously made that tension the dramatic thread of my narrative, so I am gratified to see it came through clearly. Only Jackson failed to make any comment on this aspect of my work.

Importantly, I think Eve Vogel identified a crucial characteristic of my analysis: the tempered optimism I offer about the outcomes of this historical struggle to balance private interests and public interests. I am ruefully aware, in my own schizophrenic mind, that optimism can be difficult to justify or sustain. Nevertheless, I consistently encountered in my research plenty of evidence that, as Vogel put it, "Americans and Canadians ... have, on balance, negotiated quite successfully between private and public ... and have constructed a variety of useful governmental tools that have generally aided that effort." I think this is significant in part because it mitigates

against a large body of critical scholarship on the left that asserts a monolithic capitalist hegemony or a relentless declensionist tale of exploitation, as well as scholarship on the right that asserts that governing institutions are inherently corrupt and inept while markets are perfectly efficient. Vogel calls my optimism “both refreshing and provocative in the face of today’s ideological battles.” I appreciate that. But I also expect to get hammered by the cynics at some point—and probably rightly so.

One reviewer, Adam Sowards, quite understandably chastised me for not being even more explicit about the contemporary implications of my study. And that gets to the heart of my biggest regret about the book. Originally I had intended to carry the story from the invention of electricity right up to the present, including the extraordinary energy transition we have been in since the 1990s. I got three-quarters of the way there and then had to pull the plug, so to speak. Ending the story in the 1970s foreclosed important opportunities for drawing lessons about our challenges today, as both Sowards and Vogel noted. Basically, I bit off more than I could chew. One after another, my chapters each extended to 50 manuscript pages or more. One chapter on the Progressive era grew so long that I had to break it into two. Likewise for the New Deal era. By the time I got to World War II, the manuscript had reached 500 pages and my contract deadline with the press had long passed—by many years. I had to wrap it up. The outcome was predictable. Reviewers appreciate the depth and scope of the analysis up through the Second World War, but lament the truncated treatment of the period after the war. I chuckled appreciatively at Nelles’s astute characterization of chapter 12 as a “breathless” compression of the postwar era. Indeed it was. I hope to remedy that with several co-authored articles that should be out in the near future. In the mean time, I can only acknowledge the shortcoming and plead for understanding.

My challenges in writing this book in part stemmed from my decision to do a transnational study. Many years ago I intellectually embraced Donald Worster’s call for transnational environmental history, but I had never practiced it; in part because of the time required and in part for fear of doing it poorly. In the end, I decided to walk the talk. Adding British Columbia and making the analysis comparative extended the time needed to complete the project and accentuated the “sprawling” character of the narrative. But, gratefully, at least three of the reviewers confirmed that this transnational comparison was a valuable addition to the study and an important contribution to historiography. Nelles noted that this book places me in the ranks of a small number of U.S. historians attempting comparative transborder research. I know my efforts were limited and flawed, but I hope that other American environmental historians will, as Nelles stated, show a similar “willingness to eschew exceptionalism, explore comparatives, and search out alternative narratives.”

Trading off depth for breadth has both rewards and risks. Certainly D. C. Jackson wanted more depth, such as his wish that I had paid closer attention to individual dams and their engineering. I can’t fault him for this disappointment. My decision to cover such an expansive geography, such a long chronology, and to focus the

narrative on the social struggle to create a profitable and socially just electric system left the engineering details of power plants, whether hydro or thermal, largely outside the scope of the storyline. Jackson also lamented what he calls my over-reliance on published sources. I admit to a large amount of synthesis in this 400+-page book, especially in regards to Canadian history and especially in the final three chapters of the book. But I think Jackson greatly overstates my reliance on secondary sources. I spent years combing regional archives and photographed more than 10,000 pages of documents. As far as I can tell, I am one of very few historians who has extensively utilized state public utility commission reports, state water and conservation agency reports, and the US Electrical Censuses from the first half of the twentieth century. I also collected and utilized the annual utility company reports for most utilities in the Northwest from their inception to the 1960s. The first nine chapters are chock full of footnotes to these kinds of sources.

Something Adam Sowards brought up in his comments highlighted another challenge in writing this book: how to narrate regional distinctiveness while also placing a region's history in its national context. Sowards would know about this challenge having himself written several books on Northwest history. My task was extra complicated with two national contexts to place the bi-national region's history within. While Sowards may have felt I pulled that off well, I admit that the complexity and inconsistency of trends confounded me when it came time to make comparative conclusions about the larger region and its subregions. I ended up with a somewhat unsatisfying "intellectually messy, mongrel regime of differences," as Nelles called it. This is of course the nature of human affairs. In the end I decided not to impose any order or coherence on the region's power history that I did not see in the empirical record. And the record is pretty messy. But it is not chaos, and not without important lessons for today, as noted above.

No one controls the reception of their scholarship, though we often wish we could. Sending a book manuscript off to press is like sending one's child off to college (I suppose; I never had children)—you do the best you can until it's time for them to leave home, then you send them into the world and hope for the best, with no guarantee they will be successful or reflect well on you. Reading these reviews gave me a parental flush of pride, and for that I am grateful to my four colleagues.

About the Contributors

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Paul W. Hirt is Associate Professor of History at Arizona State University. In addition to *The Wired Northwest*, he is the author of *A Conspiracy of Optimism: Management of the National Forests since World War II* (Nebraska, 1996).

Donald C. Jackson is Professor of History at Lafayette College. His books include *Great American Bridges and Dams* (Wiley, 1988), *Building the Ultimate Dam: John S. Eastwood and the Control of Water in the West* (Kansas, 1995), and (with David P. Billington) *Big Dams of the New Deal Era: A Confluence of Engineering and Politics* (Oklahoma, 2006).

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Adam Sowards is Associate Professor of History at the University of Idaho. His books include *The Environmental Justice: William O. Douglas and American Conservation* (Oregon State University Press, 2009), and *United States West Coast: An Environmental History* (ABC-CLIO, 2007).

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