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Keith Makoto Woodhouse

**Javiera Barandiarán, *Science and Environment in Chile: The Politics of Expert Advice in a Neoliberal Democracy* (Cambridge: The MIT Press, 2018).
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Introduction by Keith Makoto Woodhouse, Northwestern University

Neoliberalism is a concept that has in recent years shouldered greater and greater explanatory weight. Often, the term is employed on the broadest of scales—to explain shifts that have transformed the political and economic bases of many if not most nations. But looking at neoliberal policies up close, in the most particular of contexts, can shed as much light on the meaning of neoliberalism as can expansive theories of change. That is especially true when the particular context is Chile, one of the key laboratories of neoliberal policymaking.

In *Science and Environment in Chile: The Politics of Expert Advice in a Neoliberal Democracy*, **Javiera Barandiarán** provides a fine-grained analysis of how neoliberal ideas can shape governance, knowledge-making, and environmental change. As Barandiarán points out, scholars have long argued that in liberal democracies, the presumption of objectivity granted to scientific research is exactly what has facilitated its mobilization for ideological ends. The supposed agendalessness of scientific knowledge-making made it all the more effective in supporting political agendas. Why then, she asks, did the post-dictatorship Chilean government allow scientific institutions to wither?

Barandiarán's answer lies in the distinction between an "empire state," in which the government utilizes scientific and technical expertise in order to move society towards a desired endpoint, and an "umpire state," in which the government steps aside and acts only as a mediator, letting the market determine outcomes. In an umpire state like post-dictatorship Chile the government makes itself as unobtrusive as possible, leaving more space in which private actors can exert influence. "In this kind of state," Barandiarán writes, "no one speaks for the common good." (14)

Environmental impact assessments (EIAs) form the field of contestation in *Science and Environment in Chile*. Modeled on the environmental impact statements developed in the United States, EIAs were supposed to foreground scientific review in the permitting process for industrial projects. But EIAs were a tool that could be used in whatever manner regulators thought appropriate, and in Chile the government used EIAs for the most circumscribed purposes, divesting scientists of civic standing and ceding authority to market forces. By analyzing specific controversies centered on scientific findings, environmental regulation, and the EIA process, Barandiarán helps us better understand how neoliberal governance operates in Chile and around the world.

Andra Chastain begins the roundtable by asking whether in Chile the empire state supported the credibility of science better than did the umpire state, and how historians can most usefully compare these two sets of relationships between government and knowledge production. Further, Chastain wonders if the

vacuum left by an arm's-length state opened up space for grassroots activism and so inadvertently cultivated "critical communities" on the ground. **Frederico Freitas** points out how from some vantage points the umpire state was far from apathetic and could look quite imperial, and asks whether Barandiarán should question the assumptions behind Milton Friedman's coinage. Freitas is also curious about how generalizable or particular neoliberalism in Chile might be. **Javier Puente** suggests that Chile has, in fact, been central to many of the developments associated with neoliberalism, making the intricacies of *Science and Environment in Chile* all the more important. Puente wants to hear more about the complicity of scientific institutions themselves, and like Chastain he is interested in how Chileans associated neither with the state nor with major institutions fit into Barandiarán's story. **Emily Wakild** also considers the question of Chilean neoliberalism's generalizability, asking if Chileanists might have a particular role to play in explaining how national stories of neoliberalism fit within a global context. Wakild also suggests that Barandiarán might have included more about field work, helping her readers better understand knowledge production at its most fine-grained.

Thanks to all of the participants for taking part in this roundtable.

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Comments by Andra Chastain, Washington State University Vancouver

S*cience and Environment in Chile* is a fascinating and timely book that helps specialists and lay readers understand what neoliberalism looks like in practice. Specifically, Barandiarán examines four environmental controversies in contemporary Chile (2000–2014) to understand the role of scientists and scientific knowledge. The case studies include a large gold mine in the Andes of northern Chile that threatened multiple glaciers, a virus that wiped out farmed salmon, industrial pollution that harmed black-necked swans in southern Chile, and the attempt to build dams and hydropower systems in the wilds of Patagonia. In all four cases there was an irony: despite the fact that each of these conflicts resulted in an apparent win for the environment, the state agencies and other actors tasked with protecting the environment emerged weakened and increasingly distrusted by the public.

This seeming irony mirrors a bigger puzzle: why is Chile so admired by outsiders for its economic growth and stable democracy, while its own citizens seethe with frustration toward the political system? As Barandiarán notes in her preface, she began her research out of a desire to understand “why public dissatisfaction in Chile seemed so high, despite the ostensible success of the transition to democracy” (ix). There are many indicators of this discontent, from the massive student movements of 2006 and 2011, to the conflict over indigenous land rights in southern Chile, to the grassroots opposition to the dams in Patagonia studied in this book. But *Science and Environment in Chile* goes beyond what we already know about the shortcomings of the “Chilean miracle”¹ to illuminate the inner workings of environmental policy and expertise, with all their flaws. After finishing the book, readers will clearly understand why citizens are so disillusioned and frustrated by the Chilean government’s approach toward managing the environment. Barandiarán deftly demonstrates how, in case after case, a fundamental lack of credibility characterized all parties involved in environmental controversies—not just industrialists focused on their bottom line, but also state officials, environmental consultants, and environmental scientists.

The four cases weave a complex story in which no single actor is to blame. There are no heroes here either, and environmental activists are not the focus of the book. Instead, Barandiarán argues that the failings of Chile’s environmental policy are rooted in what she calls the “umpire state”—a term drawn from economist Milton Friedman to refer to the free-market ideal of a state that renounces its duty

¹ This is a large and growing field, but as a starting point, see *Victims of the Chilean Miracle: Workers and Neoliberalism in the Pinochet Era, 1973–2002* (Durham: Duke University Press, 2004); and Tomás Moulián, *Chile actual: Anatomía de un mito* (Santiago: LOM, 2002). Steve J. Stern, Heidi Tinsman, Florencia E. Mallon, Verónica Valdivia, Thomas Miller Klubock, Julia Paley, and Clara Han, among others, have probed the many contradictions of neoliberal Chile during and after the Pinochet dictatorship.

to promote the common good, and instead shrinks its functions to merely acting as a “neutral broker” (4). What this looks like, in practice, is a state that does not produce its own in-house science or knowledge about the environment. Instead, when determining whether to approve a new dam, mill, mine, or other major project, state officials rely on environmental impact assessments (EIAs) carried out by consultants. This raises suspicion about the neutrality of the EIAs, since the consultants are bankrolled by industry. Sometimes, when a problem arises, state officials are forced to contract out to academic scientists to prove environmental harm. This, in turn, leads to questions about whether these scientists are impartial. Moreover, the government has little power to do its own testing or carry out unannounced inspections. Instead of a strong “empire state”² that has the power to map, know, and control its territory, the Chilean umpire state seeks to arbitrate complex environmental dilemmas by sticking to a rulebook. Rather than searching for the public good by balancing competing interests—such as economic growth versus environmental protection—the government puts its trust in an ever-more-technical legal framework for environmental policy. Political elites are primarily concerned with legitimacy in the eyes of investors, who expect clear and predictable environmental approval criteria, but they have in the process lost legitimacy in the eyes of the public these projects are supposed to serve.

This book is not just a major contribution to understanding the paradox of widespread discontent despite Chile’s apparent success. It also serves as a model for how to study the “coproduction of technical and political criteria” (154)—that is, the reciprocal influence between the production of knowledge and the production of social and political order.³ As Barandiarán shows, in her case studies actors on different sides embraced the goal of making the environmental review process more “technical,” but this term meant different things to different people. For activists and sometimes even for the companies, making the review process more “technical” meant doing more and better science. But for state officials, making the review process more “technical” meant making more and tighter rules. The imperatives of science and rule-making often clashed, with negative consequences for the credibility of all involved. The meaning of “political” criteria also differed, though most agreed that politics—however it was defined—should be kept out of environmental policy. But rather than resolving conflict, the attempt to make environmental decisions more “technical” and less “political” only worsened the problem. In the case of the dam project (HidroAysén), for example, Barandiarán notes that, “As officials and politicians tried to marginalize politics from their public statements, energy and development policy in Chile became highly politicized” (188). Missing from the entire process was a discussion about the nation’s shared public interest, with input from a true “critical community” comprising scientists, local residents, policymakers, and industry.

² This term comes from James C. Scott, *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed* (New Haven, CT: Yale University Press, 1998).

³ Sheila Jasanoff, “Ordering Knowledge, Ordering Society,” in *States of Knowledge: The Co-Production of Science and Social Order*, ed. Sheila Jasanoff (London: Routledge, 2004), 13–54.

These are two major areas to which I see the book contributing: our understanding of the paradoxes of neoliberal Chile, and the coproduction of politics and technical knowledge. Since this is a roundtable, I would like to use the space I have left to raise three questions for the author. These questions have to do with (1) the focus on credibility and what this might obscure, (2) the questions raised about the broader social and cultural dimensions of these conflicts, and (3) the need to historicize the controversies examined so well in this book in order to understand what has or has not changed in the transition from Latin America's mid-century developmentalist empire states to the current neoliberal umpire states. I raise these points in the spirit of discussion and of pointing out avenues for future research, not as criticisms.

First, the book's emphasis on the breakdown of credibility and the erosion of legitimacy with regard to environmental policy makes sense. But it also points to ethical questions about the value of truth and the foundations for building legitimacy in the future. In the case of the black-necked swans harmed by the polluting paper mill in Valdivia, for example, Barandiarán explains that the controversy led to a landmark court ruling against the mill company. The company then set about repairing its image by creating research consortia with local scientists in order to rebuild trust within the community. These efforts have been successful, we are told. But what happens when community trust is built on a shaky foundation? Might we see these research consortia as, in part, a public relations move designed to rehabilitate the company's image, rather than pursue knowledge about the environment for the public good? To be fair, the author is clearly aware of these risks (202–203). But I still found myself wondering: in a world where the state has created “markets...for truths” (192), is the truth for sale? Did the umpire state create the conditions for “alternative facts” or unethical behavior? Barandiarán seems careful not to weigh in too strongly on these sensitive topics, which perhaps might be more journalistic than scholarly. But to make the book as relevant to the general reader as possible, these questions do seem worth asking.

Second, the book focuses on actors directly involved in the four environmental conflicts studied, with less attention to the broader social or cultural dimensions of the controversies. Activists are important, and they do appear in this story, particularly in the cases of the gold mine in the Andes and the proposed dams in Patagonia. But in many ways, grassroots environmental consciousness is taken for granted. As Barandiarán puts it, a central question when studying environmental policy is: “When do new policies successfully ‘institutionalize environmental awareness’?” (31). The focus is on institutions, rather than public awareness. This left me wondering about several fascinating parts of these stories. For example, in the case of the Pascua Lama gold mine, how did activists manage to spread their concern about glaciers nationwide? How did the issue become so well publicized that the president felt compelled to preserve the glaciers? Similarly, in the case of HidroAysén, how did the grassroots movement against the dams influence the ultimate decision to pull the plug on the project? These concerns admittedly fall

outside the scope of the book. But there is an additional question that I think could be answered based on Barandiarán's research: would the author say that one unintended *benefit* of the controversies described in the book was that activists had to step in and protest the state's handling of the projects? Did this contribute to the strengthening of a grassroots social movement that might ultimately foster the kind of "critical community" that is sorely needed?

Finally, a major question underlying this book is how neoliberalism undid, or remade, the "rule of experts" that existed in Chile and many parts of the developing world up until the 1980s.⁴ In her second chapter, Barandiarán demonstrates that, since at least the early twentieth century, most state policies had sought to expand the influence of science and harness scientific expertise to improve governance. But during the Pinochet dictatorship, radical free-market economists instead embraced the "subsidiary principle," which dramatically shrunk the state's scope and limited its capacity to carry out state-sponsored science. This neoliberal umpire state, Barandiarán argues, leads to the erosion of trust and credibility in the state agencies meant to adjudicate massive projects such as HidroAysén. However, since the period prior to the 1990s is not discussed in detail, questions remain. Prior to the umpire state, how did the state undertake large projects with the potential for major environmental impact? Was the "rule of experts" during the era of state-led development better at ensuring the credibility of science? Did it ensure that collective interests were taken into account? As Barandiarán notes, both empire and umpire states can employ exclusionary processes that engender distrust toward experts and elites (198). One of the most thought-provoking parts of *Science and Environment in Chile*, for me, was that it probed the effects of expertise in the neoliberal era and raised questions for historians about how these effects compare to the dynamics of expertise in earlier periods.

These questions are not meant to detract from the impressive achievements of the book; quite the opposite. Barandiarán's examination of these four environmental controversies is so well researched and tightly argued that it invites reflection on how the book's conclusions might be extended or expanded to address grassroots social actors and earlier time periods. Commendably, the book will speak not just to specialists on Chile and Latin America, science and technology studies (STS), and environmental politics, but also to advanced undergraduates and anyone in the general public interested in understanding how neoliberalism impacts environmental policy.

⁴ Timothy Mitchell, *Rule of Experts: Egypt, Techno-Politics, Modernity* (University of California Press, 2002). Critical histories of expertise and development in the twentieth century have been growing in recent years, particularly for the Cold War period. This literature encompasses many parts of the world, including Latin America, and draws on a number of fields including international history, the history of technology, environmental history, and science and technology studies.

Comments by Frederico Freitas, North Carolina State University

S*cience and the Environment in Chile* is a timely book. At a time when democratic societies in both the developed and the developing worlds experience a crisis of confidence in the authority of science in guiding policy, Javiera Barandiarán introduces the recent case of Chile, where the state, by design, lost the capacity of producing knowledge. Focusing on the years that followed the end of the military regime in Chile (1990), the book asks “how Chile’s democratic governments made decisions about natural resources?” (192). Concealed in the narrow geographical scope of this inquiry—Chile is a relatively small country of about eighteen million people—lies another question, broader in space and time: what is the role of science in guiding, determining, or influencing policy in the modern nation-state? The rise of the modern nation-state at the end of the eighteenth century consolidated the role of science in producing knowledge for emerging national governments. Latin America, as one of the first regions with a solid collection of new nation-states, followed this trend, with a significant effort to map territorial borders in the late nineteenth century and the creation of technical government agencies in the 1930s and 1940s. The Chilean state lost this capacity to produce knowledge about nature and society after the 1973 military coup. Chile’s 1980 constitution enshrined into law a “refusal to invest in scientific knowledge for policy” (1), which has determined the relationship between the state and science in the country since then. Chile, therefore, became an early example of a modern nation-state that ceased producing science as an active policy tool.

In this highly original book, Barandiarán describes how the Chilean state, deprived of the capacity to create its own place-based scientific knowledge, struggled to analyze the merits of the environmental impact assessments (EIAs) presented by private companies for licensing new industrial projects. With a high-income level of development, a natural-resource dependent economy, and a civil society demanding environmental protections, Chile was in a position to establish an environmental agency capable of producing in-house science to evaluate development projects. And yet, the few regulatory agencies discussed in the book—Conama, Sernapesca, and Subpesca—had to rely on private consultants and external academic scientists to assess the validity of the EIAs presented by industry. By analyzing four case studies encompassing different industries in various parts of the country, Barandiarán demonstrates that the Chilean state’s lack of scientific capacity stemmed from its dictatorship-era-designed neoliberal legal framework.

According to Barandiarán, the leaders of the democratic period established the new regulatory agencies based on the idea of the state as a “neutral broker.” The state’s mission, according to this view, was not promoting high ideals such as the common good, national interests, or the protection of its constituents. Instead, the neoliberal state existed to “facilitate a competitive ‘game’ designed to enable players to pursue their own private agendas” (198). In the case of environmental conflict, regulatory agencies in Chile would broker between opposing parties while aiming

for impartiality. This Chilean paradigm set its environmental agencies apart from their counterparts in other countries whose goal was, in general, to achieve the best outcome for society. Chilean policymakers construed adherence to such ideals as a sign of dangerous partiality—i.e., a subversion of the rules of the game by the state. An in-house scientific knowledge that supported the promotion of the general welfare posed a challenge to the state's role as a neutral broker. Chilean regulatory agencies were, therefore, forced to rely on “non-partisan” external consultants, from whom they expected independence from the agenda of the state and interested parties.

In the book's first two chapters, Barandiarán introduces to the reader the state of environmental regulation in post-dictatorship Chile and the failed attempts to create national environmental science institutes. It is the role of regulatory agencies in Chile to evaluate EIAs, but they lack in-house scientific expertise, relying on external consultants hired through public tenders. Chile's two environmental science institutes, EULA and CENMA, could have produced science to guide policy, but never managed to do so because politicians were “committed to the logic of the market and small state” (57). CENMA, for example, was initially proposed as a government laboratory to provide regulatory agencies such as Conama with scientific expertise. Despite this initial plan, the agency developed into a private institute that competed in the market for government contracts against private contractors and universities. For state officials, a government laboratory, totally funded by the state, “violated free market principles,” as CENMA would have an unfair advantage in disputes with private parties.

In later chapters, Barandiarán analyses four cases where environmental disputes over industrialization projects challenged the idea of the state as a neutral broker. Chapter 3 deals with the state's response to an epidemic that killed millions of fish in the salmon farms in the south of Chile in 2007-2008. Aquaculture regulation required the constant monitoring of water quality, which was carried out by for-profit consultants. Barandiarán demonstrates how the disease outbreak exposed the fault lines of a model of a neutral state regulating industrial activity through market-based science. Chapter 4 focuses on the case of pollution generated by a paper mill in a nearby wetland, which caused the killing of thousands of black-netted swans and the opposition of local environmentalists. The regulatory agency brought the paper mill to court, with each party bringing different teams of scientific experts to the case. Using interviews and court records, the author shows that in Chile, “scientists [were] not generally considered authoritative or credible participants” (123) due to the consensus that funding—public or private—determined the outcome of scientific studies. To Barandiarán, this is the result of a system where the state contracted the production of environmental knowledge to private parties.

In Chapter 5, Barandiarán travels to the arid north of Chile to investigate the case of a new gold mine that threatened the existence of two small Andean glaciers. Agricultural communities downstream mobilized against the project, fearing the

interruption of their water supply, and managed to transform a local issue into a national one. Activists focused on questioning the mine's licensing processes and brought in their own glaciologists to challenge the science of the original EIA. The final chapter examines the case of HidroAysén, a massive project to implement a series of hydroelectric dams in two Patagonian rivers. The dispute over HidroAysén cracked the neutral-broker façade of the neoliberal state in Chile. After regulatory agencies approved HidroAysén's EIA, activists initiated a broad campaign to stop the dams from being built, with different scientific challenges to the licensing studies. In this, they pushed the Chilean government to withdraw the project's EIA permit, which ended up casting a shadow on the capacity of the neoliberal state to broker projects of enormous size and complexity.

The main argument of *Science and Environment in Chile* lies in the contrast between *empire* and *umpire*. Using the two terms as a lens to understand the relationship between modern states and the production of knowledge, Barandiarán defines the empire state as the one whose leaders are confident in its technical and scientific capacities to reshape the world. She is clear about drawing from James C. Scott here. The umpire state, on the other hand, is defined as a neutral forum where the rules of the social contract are interpreted and enforced. In this latter view, markets, not planners, are the best processors of information and allocators of resources. To an umpire, producing knowledge that affects economic processes—i.e., the evaluation of EIAs—is better when regulated by the market. To Barandiarán, this view of the state, championed by Milton Friedman, is what explains the incapacity of the modern Chilean state to produce its own science to guide environmental policy.

On the whole, the author puts together a compelling case to prove that Chile's environmental policy is an example of an umpire in action. It is a well-crafted argument, but one that does not exhaust the subject. Thus, I would like to end this review with three brief questions that touch on other aspects of the relationship between *empire/umpire* and environmental policy in Chile.

1) *How does the author define the state? Is it just the executive branch, as the book seems to imply? What about the courts?*

Milton Friedman saw the courts as a crucial component of a state whose primary goal is to be a neutral enforcer of the rules of the game. However, we know that routinely judges, jury, and prosecutors appeal to the same high ideals that guide the policy of empire states. That seems to be the case in some of the examples studied in the book. In cases like the ones introduced in chapters 4 and 5, courts expanded beyond the narrow limits of neoliberal neutrality. Can one argue that, in the case of an absent executive, the courts took the role of championing ideals such as the common good or the national interest?

2) *How non-imperial is the umpire?*

It seems that by pushing market-based solutions into the realm of production of knowledge for policy, the umpire described by the author ended up looking quite

imperial. Even in times when state agents planned to deviate from the neoliberal paradigm—i.e., when they first conceptualized CENMA as a national research institute run by and for the government—its gravitational pull brought policy back to the orthodoxy of the umpire. Should Barandiarán be more critical of how Friedman employs the term umpire? Does its use obfuscate the imperialist nature of neo-liberalism?

3) *Can the Chilean umpire bring light to the relationship between state and production of knowledge in other countries?*

The book presents Chile as a cautionary tale for other countries. As the author argues, abolishing government-funded research in central countries such as the United States would deal a blow to the quality of the science produced throughout the world. Still, it is difficult for non-EIA specialists to have a good picture of how unique the Chilean case is. Is the country a complete outlier, or is it the herald of new neoliberal environmental policies that soon will be adopted in other regions?

Comments by Javier Puente, Pontificia Universidad Católica de Chile

A very common assumption, particularly in Latin American countries, tends to associate neoliberalism with the almost absolute absence of the state. The fairly traumatic experience of structural adjustments, this assumption suggests, often occurred hand-in-hand with the de-statization and denationalization of major areas of national economies, including the governance, administration, and exploitation of natural resources. As major sectors of domestic economies became subject to increasingly global capitals and powers, states seemingly dissolved. In fact, one might contend that national developments within contemporary states are less “national” than ever before. Dominated by global corporations and transnational capitals, national economies are no longer the domain of the state. Nevertheless, Latin American states remain in place as formidable institutions devoted to protecting fiscal discipline, macroeconomic development, and the integrity of foreign investments. In *Science and Environment in Chile*, Javiera Barandiarán unveils the intricacies of statehood and governance in neoliberal times focusing on an empire/umpire (6) binary role of contemporary states. While “empires” rely on their capacity to apprehend and comprehend, “umpires” promote mediation, negotiation, and enforcement.

Employing Chile as a “peripheral” example (7), Barandiarán focuses on a number of key areas in which states expose the true colors of the neoliberal governance of nature and capital: salmon farming, paper and pulp mills, gold mining, and a hydroelectric dam project. These selected cases make the book cover nearly every environmental region of the diverse Chilean territory, from Cochrane in the south to Huasco in the north. Chronologically, the book also covers all of the twenty-first century democratic administrations, from Ricardo Lagos (2000-2006) to the first presidency of Sebastián Piñera (2010-2014). From the beginning, readers are confronted with a rich set of questions. In a study of neoliberal experiments, is Chile in fact “peripheral? One might argue that the rise, development, and persistence of the so-called Chilean miracle—the combination of economic structural adjustments and political authoritarianism—actually placed the country at the global forefront of deregulation, privatization, environmental degradation, and widening inequalities. While geographically distant, the institutional results of the Chilean neoliberal experiments, and their endurance in spite of major political shifts after the return to democracy, foretold developments to come in the rest of the hemisphere and beyond.

Inasmuch as the “Chilean way” became an exportable and seemingly replicable governmental model, promoting a peculiar vision of political stability with increasingly restricted socioeconomic rights, Barandiarán explains the deeper origins of the relationship between environment, science, and politics. Centering on the tension of the *should* versus the *does*, the narrative of the book builds on a thorough discussion of “competing visions of the state.” Some scholars and observers, cleaving to an entrenched myth of Chilean exceptionalism, insist on the

existence of a ubiquitous and efficient state enhanced through neoliberal practices. Others, instead, assert the *chilenidad* of the same institutions, questioning the real capacities and motivations of the same institutions for enforcing regulatory measures. Science and environment then become pivotal battlegrounds for understanding this tension as well as the making of the “social contract for science” (39). Science, including that pertaining to the environment, strongly requires various forms of state sponsorship. In exchange for funding and patronage, scientists provide expert knowledge that exercised and legitimized power. Once scientific discourse and knowledge became disruptive and even potentially subversive for an authoritarian state, dictatorial neoliberal policies also unleashed an attack against science and knowledge. Through funding cuts and other more adamant forms of repression, the dictatorship also transformed the future of science, turning experts into apolitical competitors for advice contracts. More than a tension between competing visions of state power, one might claim that Barandiarán presents a “Chilean” relationship between science and politics as a tacit agreement over the political harmlessness of future scientific ventures. In spite of a limited institutionalization through the establishment of a number of scarce and precarious endeavors, including establishing new environmental frameworks and a handful of laboratories, standing neoliberal practices and policies have guaranteed that science ultimately remains politically meaningless.

Nevertheless, as scarce as those scientific endeavors may be, some initiatives enlighten the darkest aspects of the neoliberal exploitation of nature and the inability of expert advice in discussing, regulating, and reshaping it. The neoliberal stage of capitalist development exacerbates the alleged transforming capacity of mankind over nature. In Chile’s deep south, fishing corporations brought salmon aquaculture to an unprecedented level of development, posing overwhelming economic pressures upon foundational ecological balances while domesticating science as a core component of the analytic capacity of the state. Further north, in Valdivia, a paper and pulp mill owned by the Angelini family conglomerate turned forests into a source of a global commodity and placed scientific local knowledge in a precarious position. In Pascua Lama, near Huasco, gold mining perpetuated a long history of extractivism, pollution, and toxicity, threatening neighboring communities while making grassroots activism the sole potential haven for resisting neoliberalism. Back south, in Aysén, the capitalist ambition over harnessing energy revealed the role of the politically innocuous scientific discourse, formally labeled as environmental impact assessments, within the neoliberal governance and exploitation of nature. Curiously enough, unlike previous projects, the building of environmentally threatening dams failed on the premise of being too monopolistic and not neoliberal enough. While narrating a story of environmental governance and capitalist exploitation, Barandiarán also unveils a troublesome narrative of politically tamed science, financially coerced research, and the complete demise of scientific expertise.

The Chilean case tests the limits of the imperial span of states in an age of neoliberal reconfigurations. Unlike old fashioned imperial powers, focused on

maximizing the governmental capacity of states over places and peoples, the “umpire state” normalizes the constraints of public affairs and legitimizes the limitlessness of private interests. Neoliberalism, one might argue, inverts the polarity of public and private. While Barandiarán contends that umpire states are not a “prescribed list of policies” but rather “an ideology that exists in tension” (191), her conclusion thoroughly describes how neoliberalism refashions nearly every aspect of state institutionalism—scientific expertise included—centered on market efficiency. Rather than the result of unresolved tensions, the tepidity of contemporary expert interventions in environmental matters seems to be the deliberate result of commodifying scientists and their production and banalizing science as a central piece of neoliberal state-making. Nowhere is this banalization more evident than in converting environmental impact assessments into meagre procedural requirements intrinsically seized by capitalist and corporate interests. In an age of post-truth narrative and alternative facts, the crisis of science further threatens societal capacities for facing future social, political, and environmental challenges.

Barandiarán’s truly compelling work leaves a great deal of room for conversation. While understanding her focus on science and scientists as a community of discourse, some readers might miss another more gruesome narrative of socioenvironmental suffering only mentioned in passing. The conflicts between state powers and experts over environmental governance and economic exploitation of nature also placed the poor at the center of a liminal experience. Facing impoverishment and manifold disenfranchisements, the rural poor creatively responded with their own understanding of nature (137) that challenged both the state and institutionalized science. Regrettably, the book leaves this point largely undisclosed. At times, the author also seems soft-handed on certain institutional developments and the larger conversion of scientists into apostles of the market. Much ink has been spilt in explaining, deconstructing, and openly criticizing the role of the Chicago Boys in the implementation of neoliberal reforms and their roles in the sociopolitical legitimization of an authoritarian regime. One might contend, in describing the banalization of science and expert advice, that Barandiarán does not really confer full political responsibilities to seemingly “sellout” scientific institutions and practices that actively enriched the very few and threatened the lives of the many. Finally, the book could have also made thoroughly explicit one of its most important contributions: the role of the humanities in questioning environmental governance as a scientific realm and, ultimately, the actual values of post-conflict democracies. None of these observations, however, affects the importance of this substantial piece of scholarship. Javiera Barandiarán has made a superb contribution to a number of different fields and, more importantly, has informed future understandings of capitalism, science, and that something known as democracy on this end of the world.

Comments by Emily Wakild, Boise State University

Chile is an exceptional place to study the environment and society. In addition to its isolated and varied geography, the country experienced illustrative and contradictory episodes of both socialism and neoliberalism in the latter third of the twentieth century. Barandiarán's book gives us a new perspective on this often-overlooked nation. This book will be welcome reading for a variety of academic populations across science and technology studies (STS), environmental studies, Latin American Studies, and environmental policy and administration.

At its core, Barandiarán's study examines the processes and politics of preparing an environmental impact assessment (EIA) on four controversial environmental projects: salmon farming, gold mining, a paper and pulp mill, and hydroelectric dams. The research is largely based on interviews conducted in 2010-11 as well as broad and deep reading on each conflict. The investigation spans three governmental administrations (2000-2014) in four political regions (in Central and Southern Chile). The examples are compelling, concise, and illustrative. The range impressively represents the types of resource extraction on offer and the various vivid compromises—from dead swans to transporting glaciers—that come with the extractive industries proposing development. Barandiarán uses these cases to frame a larger inquiry into the ways research and knowledge are produced and a meditation on how they function within a democratizing neoliberal society.

This is a brilliant study for several reasons, not the least of which is the comparability and transcultural nature of EIAs in the first place. Barandiarán tells us that EIAs are the most replicated and lasting legacy of US environmental policy—this alone is an under-recognized fact and an important point for comparison. Barandiarán uses the EIAs to focus on “rules,” or the legalistic attributes of Chilean society, that exist beyond traditional policy-making procedures or laws. An EIA became a document that brokered authority and embedded within each EIA is a fascinating story. The document could be contracted out—purchased from outside the state—and so it could absolve the state from all but neutral authority arbitrating disputes among industries and the public. In analyzing EIAs then, Barandiarán makes clear the uneasy separation between science and competing stakeholder interests.

Barandiarán suggests a number of ways of understanding environmental impact assessments. The most useful is undoubtedly the competing but non-exclusive notions of empire state and umpire state (6). The first, drawn from James C. Scott's critiques of states as confident and constructive in their technical capacities, posits that states seek to accumulate power and aggregate expertise. The second, drawn from neoliberal architects Milton Friedman and Friedrich Hayek, envisions states as mediators among competing interests, there to simply enforce the rules. These interpretations provide a radical and expansive view for understanding the construction of and roles for the state in environmental issues.

Barandiarán uses these visions throughout the text to explain and analyze decisions made by various state representatives. Barandiarán's analysis is built on comparative and contextualized examples of some of the most modern and interesting social dilemmas about environmental resource management, and as a result the study covers a lot of intellectual ground in a concise and useful way.

But compliments alone do not make an interesting review or even less a fruitful roundtable. There are three places that left me wondering what else might have been included in the study or the presentation of this book and how the example of Chile might be brought to bear on understanding neoliberalism more comprehensively. My first questions concern the notion of 'boundary work.' As a conceptual principle for examining science it seemed both superficial and overly general. This idea, one common to STS literature, is a way of framing the ways actors draw symbolic boundaries around science and its roles in society and then police them. The idea of boundary work in *Science and Environment in Chile* seems to proceed at cross-purposes. Barandiarán uses 'boundary work' to organize her discussion of actors that make or defend science from the vantage point of the state, society, or the academy. She admits this is a 'blurry' process in part because the boundaries of science have 'no sharp edges' (33-35) and yet the very idea of boundary work seems to emphasize the premise that the state, society, and science should have clearer boundaries, at least according to actors involved. Furthermore, I wondered what arenas of expertise or power lacked this sense of boundary work. Do priests, clergy, and believers engage in boundary work for religion? Do politicians engage in boundary work as they jockey for authority or explain their decisions? In sum, I felt that despite its use as a consistent thread for organizing the ways people defended science, boundary work added little to my broader understanding of change over time or of the specific and rich conflicts regarding the use of environmental resources (water, minerals, forests etc.).

Moreover, in Barandiarán's use of it, 'boundary work' is often passive, such as where she describes the range of roles involved in Chile's EIA process: "But others, like those of scientists and consultants are subject to boundary work as individuals struggle to participate in EIAs while defending their credibility and that of the EIA process itself." (38) Unlike the intellectually innovative notions of empire and umpire states, boundary work was less clear, a bit forced, and even a little too top down and broad to be meaningfully applied.

Second, the book provides one of the more interesting and nuanced examinations of what might be called neoliberal science and yet I found it nearly impossible to imagine my students getting a grasp on the enormous transformation neoliberal science triggered from only reading this book. This made me consider whether or not scholars have a responsibility to define and make understandable concepts like "neoliberalism" which are so often used without context or explanation but that can also provide important insights into recent social and environmental changes. A concise, teachable summary of neoliberalism—in the vein of Naomi Klein or George Monbiot—might provide a complement to Barandiarán's

text in a classroom setting. Yet, I have found that particularly in the US, it is difficult to explain to students just how pervasive neoliberal thought is within Latin America when they can't yet identify it in their own lives and have virtually no familiarity with the term itself. This raises a question as to how critiques of neoliberalism might reach broader audiences—especially in University classrooms. If it is not up to experts such as Barandiarán to outline not just who and how, but what neoliberalism means in Chile and why it matters, who should be explaining this? Indeed, I wonder if Latin Americanists or Chileanists in particular have a unique opportunity to make neoliberal transitions more transparent to students as examples and as analytical tools for self-reflection. The implications of a neoliberal approach to environmental knowledge-making are fascinating and sublime—in the sense of a train wreck from which we can't pull our gaze—and yet the Chilean model might have more resonance if it was situated within a perspective that explained the purposeful weakening of the state within its larger historical context.

For instance, in the preface, Barandiarán grapples with the political earthquake of Donald Trump that postdated her research. She rightfully suggests the ways that the role of truth in democracy resonates both with Trump's approach to politics and with Chile's experiments with neoliberal policies. The immediate relevance is clear and still the shelf-life of this study may have been extended by situating Trump within a larger analysis of neoliberal intellectual penetration. In the preface (ix), Barandiarán claims that her study details the consequences for environmental governance when state agencies lack the capacity to produce scientific knowledge, and yet she has not yet widened the aperture to explain to a potential student-reader that this capacity has been compromised as part of a longer term unraveling of public institutions—the heart of neoliberal reform strategies.

Finally, one aspect from the field of Science and Technology Studies of major interest to many environmental historians is that of field science. Despite the range of industries and 'fields' the book's four examples draw upon, there is little attention or analysis paid to the process of collecting scientific data and observations in the field, a distinction that matters to changing practices of knowledge production and also to the distinctions between laboratory science and field science. It occurred to me that my discomfort with the idea of boundary work was likely disciplinary. So I wondered, how might environmental historians have approached this overlap differently? And I think that they might have looked more carefully at the ways scientists and others interpreted and listened to nature. An analysis of field science might have elegantly enabled this practice to come through.

Barandiarán perhaps rightfully chooses to emphasize the bureaucratic aspects that comprise state science—the centers (CENMA), the departments (CONAMA), even the contract researchers in private universities. Still, there are examples within the deeply textured and nicely organized case studies that might be placed in the framework of field work as a crucial and unique aspect of producing an EIA. For example, Barandiarán explains the eagerness of academics to work on the

EIA studies for HidroAysén as a backdoor entrance to fields that had been off-limits to them, “an unprecedented opportunity to explore normally inaccessible territories and work in large teams” (166). But how does having particular areas—with little-known lichens and mosses—rendered inaccessible as fields of study for financial, logistical, and even neoliberal reasons shift the ways EIAs accomplish their goals? How does a shifting definition of the ‘field’ influence the evaluation of particular projects? No book can do everything, yet I imagine environmental historians would have liked to hear more about the material and physical landscapes of field work and less about abstract boundary work.

As a whole, the study provides an incredible resource, one deeply and thoughtfully researched. These elegant and nuanced examples provide more than a sum of their parts—they expose a fresh and clear-eyed assessment of what is at stake with the production and contraction of knowledge about Chile’s modern environment. In this way, Barandiarán fits a seemingly obscure and out of the way example (Chile) into a discussion of the ways societies contract, use, and question science and the role of the government in this exchange.

Response by Javiera Barandiarán, University of California-Santa Barbara

The opportunity to engage with colleagues across long distances and with time for reflection is wonderful. My thanks to Keith Woodhouse for imagining this roundtable and making it happen, as well as to Andra Chastain, Emily Wakild, Javier Puente and Frederico Freitas for participating. I have organized my response into three topics which I hope help connect the book to broader scholarly and political concerns. These are reflections on (1) the book's timeliness; (2) its core conceptual contribution, the empire/umpire state; and (3) the generalizability of its findings beyond Chile. Opportunities for further research on the historical relationship between expertise and political economy are far from exhausted, especially in Latin American and other so-called Global South countries.

(1) On the book's timeliness

Chastain and Freitas note that the book is timely, and I start by reflecting on what makes it so. The book advances the scholarship on neoliberalism by showing how it works in practice and in subtle and somewhat unexpected ways in a moment when the topic of neoliberalism seemed almost exhausted. It does so by focusing on the consequences of neoliberalism for knowledge production. After decades (if not longer) of feeling safe in the belief that science and expertise have credibility to speak on all manner of issues of public concern, some recent political events alerted broad audiences to the possibility of a crisis of confidence in science, popularizing the idea of 'post-truth' politics. Wakild and Chastain probe me to say more about what this means for the value of truth in society, or how scholars like myself can better articulate for a broad audience the wider context and long-term changes that are afoot. This has only become more pressing since the book appeared in print one year ago, as evidenced, for instance, by events in Brazil: the election of climate change-denialist and right-wing populist Jair Bolsonaro and the burning of Brazil's National Museum. The region's capacity for scientific knowledge-making seems increasingly in peril.¹

The book does not seek to answer these complex ethical questions, however. When I began this project a decade ago, the idea that (to use Puente's phrase) "science ultimately remains politically meaningless" was outlandish within my chosen field of science and technology studies (STS). STS scholars had spent the previous three decades developing sophisticated critiques of science. When recently asked about post-truth politics, one founder of the field, Bruno Latour, told the *New York Times*, "I think we were so happy to develop all this critique [of science and

¹ On the real and symbolic losses stemming from the museum's disappearance, see Chacoff, Alejandro. 2018. "Brazil Lost More Than the Past in the National Museum Fire" *The New Yorker*. September 16.
<https://www.newyorker.com/news/dispatch/brazil-lost-more-than-the-past-in-the-national-museum-fire>, accessed February 23, 2019.

expertise] because we were so sure of the authority of science.”² I initially struggled to persuasively articulate the hunch that was driving my research (that science in Chile did not have ‘special authority’), though I did find scholarship pointing to the phenomenon I was observing: Yaron Ezrahi’s *The Descent of Icarus* (1990) analyzes the historical transformations of science for government in liberal democratic thought and practice, and Andrew Mathew’s *Instituting Nature* (2011) and Mark Carey’s *In the Shadow of Melting Glaciers* (2010) examine disparate efforts to institutionalize ignorance in Mexico and Peru, respectively.

It may appear contradictory to study the political importance of science if it seemingly lacks a privileged place in policy. A reason to nevertheless undertake such a study lies with the STS idiom of co-production, which stipulates that understanding how a society produces knowledge will tell us a lot about how power is exercised in that society. My book differs from scholarship that treats “undone science” or ignorance (agnotology) as exceptional circumstances. Instead, it contributes to work on science and democracy with a study of institutionalized or routine practices of producing knowledge for regulation with a case from outside advanced liberal democracies.

The case, methods, and scope of the book also make it timely. The focus on Chile is appropriate because, to quote an anonymous reviewer, the book shows that democracy is being made outside the traditional centers of power. North America and Europe have to date dominated the scholarship on science and democracy. Also opportune is the technique of tracing politics and practices provoked by one policy, Environmental Impact Assessments (EIAs), across four distinct conflicts. Policies like EIAs are typically left to political scientists and policy scholars to analyze. I hope others will agree with Puente that this book demonstrates the power of a humanities or interpretive approach in the examination of policies, institutions, and governance. When I began this project, there was little scholarly interest in EIAs (and I received much more interest from acquisition editors when talking about environmental conflict instead). This too has changed since 2008, and I have since attended whole panels on EIAs at the annual meetings of ASEH and AAA.

There is a downside to this approach flagged by the reviewers: I focus on institutions more than on the communities suffering environmental degradation or on the activists resisting powerful corporate interests. In part, this reflects my original training in policy but also my belief in the need to “study up,” following Laura Nader. I wrote with two audiences in mind: scholars interested in the relationship between science and democracy, and Chilean communities, students, and activists resisting these kinds of projects. Chilean activists have limited resources; should they spend them on producing their own scientific data to counter

² Kofman, Ava. 2018. “Bruno Latour, the Post-Truth Philosopher, Mounts a Defense of Science” *New York Times*. October 25.

<https://www.nytimes.com/2018/10/25/magazine/bruno-latour-post-truth-philosopher-science.html> (italics in the original), accessed February 25, 2019.

large projects, as international organizations like Greenpeace or the World Wildlife Fund often suggest? Should they participate in the EIA or disrupt it? Who might their allies in state agencies be? Chapter four provides one answer with the story of activists in the coastal town of Mehuín, who disrupted plans for a waste pipeline through their community by blocking scientists' access to the beach. Thus unable to collect scientific samples, the company could not complete the required EIA and had to abandon the pipeline. The activists called this the 'weak link' strategy, and I identify echoes of it in other conflicts (134; 197). In detailing how EIAs move through state agencies, the book may provide activists with useful information. The book is currently being translated into Spanish and I will continue delivering talks on these topics in Chile.

(2) On the umpire/empire state

The book's humanities approach, I believe, raises the kinds of ethical issues Chastain and Wakild point to. To answer Chastain's searching questions about the value of truth in society, I show in the book that in Chile there is a market for scientific environmental "truth." But this may not be the case in other issue areas or societies, and I do not think the umpire state alone can take credit for the rise of "alternative facts" or unethical behavior. In short, I hope the book will contribute to a global research effort on these topics (see more on this below). In response to the reviewers' incisive comments, here I clarify some aspects of the umpire/empire state concepts.

Freitas asks: how non-imperial is the umpire state? In terms of their effects on the environment and social justice, empire and umpires states are often similar (see 198)—and changing this relies upon our activism. Yet I insist that the umpire state is qualitatively different in terms of democracy. Arundhati Roy once asked, "what makes democracy so user-friendly to empire and its corporate allies?"³ She was talking about Indian communities displaced by mining and energy projects, and challenging our faith in democracy to offer them an avenue to defend their land and health. An answer to Roy's question is found in the umpire state's mode of democracy, in which the state abdicates from any pretense of protecting the common good. Its internal logic is to enable other actors to pursue their own interests, as if the state itself was not a powerful actor with interests. This is what makes twenty-first century democracy user-friendly to imperial interests that have the funds, professionals, and equipment to produce knowledge about the world. This takes the power out of liberal notions of accountability, requiring a change in our activism.

This leads to Chastain's question about a possible unintended benefit: that the umpire state opened room for grassroots movements to operate. In the logic of

³ Talk delivered at Harvard University, April 1, 2010. Roy uses the term "hollowed out" democracy which is apt here too. Available at https://www.youtube.com/watch?v=22LNT3H_YjY, accessed February 25, 2019.

the umpire state, social movements are expected to be the ones to counter corporations; whether they have the resources and power to do so is a crucial question. I want to thank Chastain for bringing “critical communities” into their review, as I believe fostering these communities is necessary to correcting the democratic failures of the umpire state.

How to foster critical communities is a big question, and I am not optimistic that social movements have the resources to sustain them over time. Here the question of political responsibilities raised by Puente is pertinent. While a journalist might have called out a few individuals for their behavior, my concern lies with how poor wages and job dissatisfaction are driving professionals to cynicism, apathy, or industry jobs. Building a critical community that can assist in putting a check on corporate interests and the umpire state seems impossible to me in the absence of good professional jobs—including those in academia, NGOs, journalism, and government. Democracy is further hollowed out as even these jobs become precarious.

Finally, reflecting on how the book would differ if I had engaged with different methods (e.g., field science) or theories (e.g., less focus on scientific credibility) is stimulating. I acknowledge that the focus on science and institutionalized practices of collective knowing, which I felt necessitated a breadth of cases, in some ways obscured important questions such as how certain environments came to be perceived as worthy of protection or as resources to be exploited. Delving into field science practices or historicizing relationships or conflicts across four case studies would have offered some answers to these questions, but also required more time and ecological expertise than was available to me. Thus, while the first two chapters describe changes over time in Chilean institutions (the constitution and environment agency in chapter one, universities and research labs in chapter two), the next four chapters illuminate different aspects of how Chile’s neoliberal knowledge regime works in practice. To respond to Wakild on my use of boundary work, historicizing scientists’ ideas about science would be an interesting move. Scholar Hebe Vessuri described Latin American science as a field with “no sharp edges,” but the Chilean scientists and officials I interviewed disagreed and, instead, invested tremendous time and effort in drawing boundaries around science. My new work examines some of these issues. I am currently working on a comparative Chile/Colombia project (with Sebastian Rubiano-Galvis) that examines the role of courts in EIAs, to answer Freitas on this issue. And my second book project on lithium mining in Chile and Argentina puts field science practices, examined over a 40-year period, at the center of inquiry.

(3) What does the Chilean case have to say for other countries?

Studying a different country while working in the United States presents the challenge of writing books that are conversant with North American and European academic literatures while recognizing that those literatures can never fully explain a society informed by different experiences and pressures. The inverse is also true;

Chile's experiences with neoliberalism are relevant to understanding neoliberal transformations other countries may be facing, but these cannot be easily synthesized or extrapolated. I agree with Wakild's suggestion that there is a need for a book that gives students a sense of the depth and breadth of neoliberal transformations. Primarily, though, I think there are three areas of further research that are needed to make more connections between Chile and other cases.

First, though some scholars have moved on to discuss "post-neoliberal" societies, research on the whole range of neoliberal transformations is still needed. For instance, aside from Chile, what other countries are on the cutting edge of neoliberal transformations? Aside from the well-studied privatization of services, how else does neoliberalism manifest itself? One of my goals in the book's preface in pointing out the connections across a range of neoliberal education policies was to illustrate that neoliberalism is multifaceted—it is not simply a matter of privatizing a service (schooling, lab work) but also introducing new market-based incentives (e.g., real estate into education) and changing guiding values and identities (e.g., from citizens to consumers). The book focuses on science but in the context of its entanglements with K-12 education as well as natural resource management.

Second, a global approach that connects scholarship across countries and issues is valuable. Scholars working across science policy, the politics of science, and science and democracy under neoliberalism are coming together—though for now research on the U.S. and Europe still dominates this network.⁴ To answer Wakild more directly, the range of neoliberal transformations is so broad and geographically varied that one country's experiences cannot capture it all; perhaps now that the injustices of a neoliberal approach to knowledge production have been made apparent to a wider audience, an edited volume on the topic is called for?

A third way to foster this kind of 'linking' research is through comparative frameworks of inquiry. My research was informed by the civic epistemologies framework, developed by Sheila Jasanoff in *Designs on Nature* (2005), which consists of six questions about social trust in science for identifying the "institutionalized relationships between individuals, groups, and organizations that sustain routine procedures used to produce, validate, disseminate, and apply knowledge to collective decisions" (*Science and Environment in Chile*, 30). Although developed to understand why societies reacted differently to the same scientific advances, this framework was useful also for studying a country where scientific authority is in doubt. Hopefully my book will motivate others to apply the civic epistemologies framework in studying other societies as a means to deepen our global understanding of the myriad ways in which scientific, technical, and expert knowledge shape governance. Mine is the third monograph on expertise and

⁴ See the Changing Political Economy of Research and Innovation (CPERI) network, <https://politicaleconomyoftechnoscience.wordpress.com/about/>. On neoliberalism and U.S. universities see work by Phil Mirowski, Elizabeth Popp Berman, Roger Geiger, Sheila Slaughter, Gary Rhoades, and many others.

government in Chile this decade, suggesting a rising interest in research that connects science and technology not only to economic development but also to politics, culture, and society.⁵

⁵ These are Eden Medina's *Cybernetic Revolutionaries* (2011) and Sebastian Ureta's *Assembling Policy* (2015), all by MIT Press.

About the Contributors

Javiera Barandiarán is Assistant Professor in Global Studies at the University of California-Santa Barbara. Her current research interests explore the politics of lithium innovation and mining. In 2009-2021, she will be directing the University of California's study center in Santiago, Chile.

Andra B. Chastain is an assistant professor of Latin American and world history at Washington State University Vancouver and earned her PhD from Yale University in 2018. Her current book project is a transnational history of the metro system in Santiago, Chile, provisionally titled *Visions of Progress: The Santiago Metro and the Struggle for a Rational City*. She is also the co-editor, with Timothy W. Lorek, of *Itineraries of Expertise: Science, Technology, and the Environment in Latin America's Long Cold War* (under contract with the University of Pittsburgh Press).

Frederico Freitas is an Assistant Professor of Digital and Latin American History at North Carolina State University. His research focuses on the intersection between environment and society with a particular interest in the spatial and social implications of environmental politics. He recently published with Jacob Blanc the edited volume *Big Water* (Arizona 2018) on the history of the borderlands of Brazil, Argentina, and Paraguay. As a recipient of a National Endowment for the Humanities Fellowship, Dr. Freitas is on a sabbatical in 2019-2020 working on his monograph, *Boundaries of Nature*, on the history of national parks and conservation policy in Argentina and Brazil in the twentieth century.

Javier Puente was trained as a historian of the rural Andes at Georgetown University. He specializes in the question of campesino livelihoods and agrarian environments. He will be joining Smith College as Assistant Professor of Latin American and Latino/a Studies in the fall.

Emily Wakild is Professor of History and Program Director of Environmental Studies at Boise State University in Idaho. She researches histories of conservation and biodiversity in Patagonia and Amazonia. She is the author, with Michelle K. Berry, of *A Primer for Teaching Environmental History* (Duke 2018).

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

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