



# H-Environment

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**Edward Dallam Melillo, *Strangers on Familiar Soil: Rediscovering the Chile-California Connection* (New Haven, CT: Yale University Press, 2015). ISBN: 9780300206623**

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## Introduction by Christopher F. Jones, Arizona State University

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Chile and California hardly appear, on first glance, to have much in common. They are separated by thousands of miles, possess distinct political powers (one is a nation; one is a state), and have followed different economic development paths. Yet the two have surprisingly integrated histories, **Edward Dallam Melillo** argues in *Strangers on Familiar Soil*. Flows of goods, plants, and peoples between the two Pacific regions have reshaped each place. What emerges is a compelling and unexpected tale of connections between the two seen through such wide-ranging objects as potatoes, seeds, nitrates, trees, people, and ideas. In contrast to American histories that often perceive the history of California through an east-west axis of settlement from the Atlantic, Melillo shows how it is essential to include north-south dynamics as well. And counter to the trend of analytical work on California that ignores Chile altogether, *Strangers on Familiar Soil* demonstrates many ways the Golden State depended on two-way Pacific partnerships.

In surveying the myriad interconnections between California and Chile over more than two centuries, Melillo ranges far and wide to demonstrate the mutual shaping of the two regions. Some of his examples follow patterns of *The Columbian Exchange*, such as Chilean potatoes and alfalfa grown in California or northern pine trees that were shipped south to grow in Chile.<sup>1</sup> Other examples focus on the Californian gold rush, which benefited not only from Chilean natural resources (food and wood, most prominently) but also mining techniques brought by Chileans along with their labor. Chilean economic development, in turn, was reshaped through Californian plants, the travels of American railroad pioneers in the 19<sup>th</sup> century, and neoliberal economic policies in the 20<sup>th</sup>. In seeking to move beyond “contributionist” history that is simply a bucket list of items moving back and forth, Melillo offers a comparative framework to evaluate the consequences of different transfers. He distinguishes between three categories of flows, which he describes as displacements, exchanges, and influences, with the first referring to a one-way process of biota from one location pushing out local plants, the second describing lasting and reciprocal connections that reshaped both places, and the final depicting conscious efforts to transform environments.

Situated at the nexus of environmental history, Pacific history, and transnational history, *Strangers on Familiar Soil* has received deserved scholarly praise and multiple awards. In 2016, it was named Winner of the Caughey Book Prize from the Western History Association for the most distinguished book on the history of the American West, and the same year it received the Honor Book Prize from the Denver Public Library’s Caroline Bancroft Prize Competition.

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<sup>1</sup> Alfred Crosby, *The Columbian Exchange: Biological and Cultural Consequences of 1492* (Westport, CT: Greenwood, 1972).

**Ian Tyrrell**, as one of the pioneers of transnational history, fittingly opens the roundtable, offering praise for Melillo's book and in particular, its incorporation of labor into the story. He raises questions about the extent to which events in Chile and California can be isolated from other nations (both Pacific and European) and about the challenges of dealing with a region (California) that was subject to national policymaking decisions made elsewhere. **Jared Farmer** notes the similarities between Melillo's account and William Cronon's famous "Kennecott Journey" article about paths out of town while asking about the utility of his tripartite structure and the necessity of Chilean nitrates for the California citrus industry.<sup>2</sup> **Tiago Saraiva** provides the final comments before the author response, exploring which of the interchanges were most consequential over time and highlighting the benefits of incorporating techniques from the history of science and technology into environmental history.

The original plan for this roundtable did not include only male participants, but due to unforeseen events, this became the result. No fault should reflect on the author or reviewers, as they did not know who any of the other participants would be in advance. As editor, it is my responsibility to plan better to avoid this situation in the future.

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.

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<sup>2</sup> William Cronon, "Kennecott Journey: The Paths Out of Town" in William Cronon, George Miles, and Jay Gitlin, eds. *Under an Open Sky: Rethinking America's Western Past* (New York: Norton, 1992).

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**Comments by Ian Tyrrell, University of New South Wales**

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**T**ransnational environmental history is a growing field. While a number of monographs already consider the flows of people, ideas, commodities and biota across national boundaries, Edward Dallam Melillo's *Strangers on Familiar Soil* is a model for this genre. A study of environmental connections between California and Chile from the time of European settlement, Melillo's account has at its foundation the consideration of two Mediterranean climate areas which also have similarities in biota and which have engaged in contemporaneous process of European settlement and economic development. Melillo describes the exercise as a comparison of "complementary zones" (p. 7). But these physical similarities mean little without human interactions, so the cultural remaking of landscapes is necessarily central to the argument. Part environmental history and part economic history, Melillo's work examines three levels: 1) displacement, where new biota have pushed out or replaced the pre-Colombian forms; this displacement is typically a short-term, one-way process, without deleterious effects on the exporting country. Such was the case with the importation and flourishing of Chilean alfalfa in California or the Golden State's Monterrey Pine (*Pinus radiata*) in Chile; 2) exchanges over long periods of time, where "profound transformative effects" occurred for both sides of the equation (p. 6). Here Melillo means not merely trade but the social relations that are shaped in such economic processes as the export of a commodity, for example, nitrate fertilizer; and 3) "influences", which he takes to be "intentional efforts" for environmental transformation, including educational ideas, theories of economic reform, and cultural presuppositions. This division, bouncing off the historiography that goes back to Alfred Crosby's pioneering work on *The Columbian Exchange*,<sup>3</sup> is mostly satisfactory, though "displacements" can in their own ways be "extensive" and "transformative" (p. 6), as the invasive capacities of *Pinus radiata* have shown in other countries, and as Melillo's discussion of the pine's adaptive capacities in Chile indicates.

Especially noticeable in Melillo's account is the way that the history of commodity exchanges was central to economic and environmental change. Work in the history of both individual commodities and commodity chains is contributing to a new methodology for global economic history,<sup>4</sup> and Melillo draws fruitfully on this approach, which he uses also to explore environmental transformations that seem to flow from the exchanges. But a commodity chain approach tends to allow an essentialism to flourish in which much of the analysis is derived from the relentless process of commodification. Ideas and ideology and also political superstructures, including the role of class and the state, are not so central to such a scheme.

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<sup>3</sup> Alfred Crosby, *The Columbian Exchange: Biological and Cultural Consequences of 1492* (Westport, CT: Greenwood, 1972).

<sup>4</sup> Illustrated in Steven C. Topik and Allen Wells, "Commodity Chains in a Global Economy," in Emily Rosenberg, ed., *A World Connecting, 1870–1945* (Cambridge, Massachusetts: Harvard University Press, 2012), chap. 4.

Melillo is excellent on the introduction of biota and commodities, especially the exchange of Monterrey Pine to Chile for softwood building timber and alfalfa cropping and sodium nitrate as sources of soil improvement in California. The Chilean alfalfa was “indispensable” to Northern Californian dairying (p. 92). These introductions changed landscapes profoundly and propelled California onward to greater importance in the global and American economies. The synergies between the two countries were and to some extent still are legion, as in the fruit industry, providing in recent times all-year access to certain fresh fruits across the hemisphere, and in viticulture. However, the history of viticulture in Chile departed noticeably from the Californian, where Phylloxera insect damage to root stock devastated the industry in the late 19<sup>th</sup> century. “[D]ivergent entomological experiences” (p. 152) meant that, except for post-1960s exchanges in technologies and business models for wine-making, the long history of Chile’s wine industry sits a little uneasily within the Californian-Chilean exchange paradigm. Nevertheless, Melillo’s general thesis holds up for political and economic reasons. The relations of power between California and Chile became increasingly unequal, and in many ways Chile has shaped California, which is to say that the raw materials of nitrates, alfalfa, cheap, seasonal labour and so on have helped to make California the agricultural juggernaut and food bowl that it is.

There is especially good and extensive material on the importance of railways to environmental change and conditions of labour. Railways meant demand for timber, cutting of forests, and the need for a plentiful and cheap workforce. Much is made of the activities of the well-known Henry Meiggs, the American entrepreneur who built railroads in Peru and Bolivia, after fleeing California for Chile during a financial corruption scandal. While questions might be asked among Latin American historians about the overall significance of Meiggs’ role in the pattern of rail development, Melillo’s work is going to be extremely useful for further contextual study of the “Yankee Pizarro” first treated by Watt Stewart in a pioneering book of 1946.<sup>5</sup>

As a result of the exchanges that Melillo documents by focusing on California and the Eastern Pacific, he concludes that Californian exceptionalism needs to be abandoned. Instead, his work puts California firmly in a Pacific world, a framework that produces important insights, especially for the period of Spanish rule, which laid a platform for later interactions across the hemisphere. For this reason, *Strangers on Familiar Soil* is a valuable contribution to the “Pacific World” studies that are being advanced in historiography through his and others’ work.<sup>6</sup> This book is perhaps the most significant case study of transnational exchanges in the Pacific World yet accomplished.

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<sup>5</sup> Watt Stewart, *Henry Meiggs: Yankee Pizarro* (Durham, NC: Duke University Press, 1946).

<sup>6</sup> David Armitage and Alison Bashford, eds., *Pacific Histories: Ocean, Land, People* (Basingstoke: Palgrave Macmillan, 2014).

As the writer of a pioneering though less sophisticated version of such a study, I am grateful to see the ideas updated and significantly advanced in a way that gives more account to the question of labour than I attempted in a different empirical context. Unfortunately, Melillo consistently misspells my name (except in the index), as quite a few others do. That suggests that we historians as a whole are not as accurate in the use of evidence as we like to think.

This minor quibble aside, Melillo's work raises an important question. That is how to integrate the study of particular transnational exchanges into a larger pattern, and conversely, how to separate the Californian-Chilean exchanges and influences from those of a wider kind. Like me, Melillo was actually unable to keep the analysis purely within a one-on-one reciprocal encounter, because there is a much more multilateral set of exchanges and influences going on, as the work of Meiggs in Peru and Bolivia as well as Chile and the role of immigrant and indentured labour shows around the Pacific Rim.

Certainly the use of commodity chains and exchanges would be helpful in integrating the various complicated connections that that might comprise a Pacific World, however that is defined. But these complications include links with Britain (largely neglected in the study yet important for capital, technology, and some personnel in the so-called Southern Cone countries), New Zealand and Australia (biota principally) and China, for cheap labour and markets as early as the Spanish period, to mention some of the more obvious. I wonder if Melillo can say more about how he attempted to navigate the analytical challenges of keeping a focus on a particular set of exchanges (Chile-California) in the context of the broader global system?

Beyond this economic, market-oriented framework lies the politico-economic issue of the state as a regulatory force within world trade. One question concerns the nature of the economic comparison, where the role of state actions through tariffs, hinted at in passing for Chile (p. 145) and other economic policies might be taken into account more extensively. The foreign miner's tax of 1850 to limit Chilean and other workers entering Gold Rush California is a case where the role of the state in the assertion of boundaries for exchanges of commodities and people is dealt with (pp. 76-77). But, to take another example, I wondered what impact American tariffs of the 1890s had, if any, on the Chilean sheep industry's late 19<sup>th</sup> century boom, a boom that had arguably considerable effects on the ecology of Patagonia and on the local economy. I wondered also if the raising of sheep and cattle produced significant "transformative" effects on the environment of Chile, compared to those generated by the changes in forestry, mining, and viticulture that have been dealt with in the book. Nor is there consideration of biological control as a theme despite its importance in California (mentioned only in passing in relation to Phylloxera and quarantine for Chile, a most interesting example). Such aspects of the exertion of state power may structure the flows of commodities and regulate the introduction of pest and other species. Some countries may be able to effect these controls better than others. Though Chile was able to avoid the Phylloxera debacle in Europe and



California, inequalities of ecological exchange may reflect wider political and economic power structures and the composition of the state.

All that is to suggest that the complementary zones of economic transaction (Chile and California) are not exactly the same as for politics and the state (USA and, for the most part, Chile). While “Chile’s landscapes underwent profound transformations to supply the ingredients for California’s increasingly ravenous metabolic cycles” (p. 200), these metabolic cycles stemmed from the demands of an American national market developing behind a tariff wall. Politically too, the structure of state and ideology places limits on commodity analysis. While Melillo points to a long democratic tradition in Chile, it was by no means so long or so strongly entrenched or uninterrupted, even in the early to mid-twentieth century, as the American—or the Australian, for that matter. In the latter case, environmental dreams—though not concrete achievements—may have been more clearly shared with the United States because of this democratic culture, and where the racialized nature of the transformed landscape could be more convincingly though equally brutally effected. That stated, Melillo’s comparative account of Californian and Chilean parallels in attempting to erase or minimize the significance of pre-Columbian peoples is most interesting material. Chile’s racial exceptionalism is in Melillo’s sights, and rightly so.

The inequality of nation-state power relations is best revealed in the “Davis Boys” episode, named for the Chilean students who studied agriculture at the University of California, Davis. This episode was part of a larger pattern. The state government of California, USAid and the University of California system provided a variety of professional advice, cooperation and educational training for agrarian development in Chile, from forest policy in the 1950s to the radical modernization of the 1960s and 1970s that transformed “sprawling haciendas into an array of consolidated, high-tech agribusinesses” (p. 162). In some ways, this latter activity paralleled the role of the Chicago School in economic “reform” in Chile based on free-market principles (p. 170), but Melillo grants that the University of California-led agricultural exchanges produced “far more diverse political, environmental, and social outcomes” (p. 156). Melillo shows how environmental and politico-economic forces interacted across hemispheres, and how the globalization of the 1960s and 1970s put pressure on the Chilean state, but in ways that went way beyond Californian impacts alone. It was principally American imperial power, rather than California alone, that eroded the Chilean “democratic” traditions in the 1970s in disastrous ways, and the entire global network of economic forces that emerged from the post-World War II settlement had its own insidious impacts.

Melillo is aware of the inequalities of labour relations, indeed he is eloquent on the point. *Strangers on Familiar Soil* is particularly good in bringing in the story of labour as a commodity in world history, and the impacts of Chilean-Californian ecological exchanges are demonstrated for the indigenous and peasants. Yet despite protests and strikes, workers lost out with these large scale economic and

environmental changes, and appear in the story mostly in terms of these larger processes.

We learn about the ideas and dreams that motivated Euro-American settlement in the two areas, and Melillo is exemplary on the impacts of early Hispanic California on later development. To a considerable extent, California becomes in the long term a reverse model for Chile. Yet, while I'm no expert on Chile and have never visited the country, it seems that cultural aspirations were rather different in each case. The role of culture is taken up indirectly in the question of intentional changes or influence, but the intentions treated are essentially those of supply and demand, the great economic forces in a world market. This approach does not provide a substitute for analyzing the ideologies of the state and its constituent classes. I'd be curious to learn more about Chilean cultural aspirations and how they might have shaped the story.

The considerable achievements of this book are registered in the extent to which it stimulates such speculation. *Strangers on Familiar Soil* will help to break down artificial boundaries between economic and environmental history and the already crumbling walls between American history and world history. And it will enrich American historians' understandings of Chilean connections.



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**Comments by Jared Farmer, Stony Brook University**


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The pleasure of roundtable reviews is that reviewers may dispense with summarization and praise, and go straight to criticism. I mean that in praise. Edward Dallam Melillo's *Strangers on Familiar Soil* (2015) merits intellectual engagement for its far-reaching use of space and scale. Reading Melillo's book, my thoughts returned to William Cronon's essay "Kennecott Journey" (1992). "Historians writing about the past of any particular western place would do well to remember that its history is tied to many other regions undergoing parallel changes at the same time," wrote Cronon. *Strangers on Familiar Soil* is, in my reading, a rich consideration of Cronon's "paths out of town," plus paths *into* town. Or, to be precise, back-and-forth paths between two meta-towns: Chile and California.

"Connections" is Melillo's organizing principle, and he divides it into three italicized types: *displacements*, *exchanges*, and *influences*. This tripartite division intrigued me, then confused me, especially when used alongside words such as "introductions," "shifts," "transfers," "relocations," "migrations," "flows," and "linkages." I was frustrated by the imprecision. For example, shouldn't Chilean plantations of Monterey pine (*Pinus radiata*) count as "influences" as well as "displacements"? Isn't Monterey pine "displaced" in San Francisco, too? On final consideration, I'm not sure Melillo's terminology was necessary. Why not just say that influences can be social, cultural, intellectual, economic, ecological, and so on? Despite my frustration, I take his point that the Columbian Exchange is hardly the only historical model for interchange. Connections can be one- or two-way, symmetric or asymmetric, synchronous or alternating. Some endure (many don't), some are remembered (most aren't).

The genre of Melillo's history is hard to pin. Unlike Gregory T. Cushman's *Guano and the Opening of the Pacific World: A Global Ecological History* (2013), which uses one commodity to trace a myriad of trans-Pacific connections across national, non-state, and non-human spaces, *Strangers on Familiar Soil* starts with two territorial spaces on the eastern Pacific Rim. But is the northern half of the book primarily about the U.S. State of California, or the semi-mythical Golden State, or the ecological "island called California," or its lowland (Mediterranean) areas? And is the entire book primarily a transnational history, a transregional history, a Pacific history, or a comparative history? Impressively, it does a bit of all the above, though it might have been even more compelling had it done more with less. A deeper *transnational* history would say more about politics and policy, treating California as a polity within a polity, and Chile as a postcolonial-cum-neoliberal state. A deeper *transregional* history would say more about biogeography and ecology, providing more context about Mediterranean zones around the globe. A deeper *Pacific* history would say more about Peru, Panama, Mexico, Hawai'i, New Zealand, and Australia. A deeper *comparative* history would cover additional topics (beyond mining, farming, and logging) that unite California and Chile—e.g., El Niño, earthquakes, medflies,

dams, deserts, foehn winds, solar power—and say even more about specialty crops and seasonal workers in the era of free trade.

After reading this singular book on the “Chile-California connection,” I wondered: Are there historical exchanges between the Golden State and other regions/polities that deserve book-length treatment? Spain and Australia immediately come to mind. Two splendid volumes address the latter: Ian Tyrrell’s *True Gardens of the Gods: Californian-Australian Environmental Reform, 1860–1930* (1999) and Erika Esau’s *Images of the Pacific Rim: Australia and California, 1850–1935* (2011). The California-Hawai’i connection is partially explored in John Ryan Fischer’s *Cattle Colonialism: The Environmental History of the Conquest of California and Hawai’i* (2015) and Gregory Rosenthal’s *Beyond Hawai’i: Native Labor in the Pacific World* (2018). Malcolm J. Rohrbaugh provided a European view of the transnationalism of 49ers in *Rush to Gold: The French and the California Gold Rush, 1848–1854* (2013). I haven’t encountered in-depth, long-term studies of the connections between U.S. California and Israel, or Florida, or Baja, or Panama, or Peru, or Japan, or the Pearl River Delta, all of which seem significant. The existence of Janet L. Finn’s *Tracing the Veins: Of Copper, Culture, and Community from Butte to Chuquicamata* (1998) points to U.S. influence on Chile coming from Montana as well as California. No doubt a Chile-Norway connection could be traced through the history of aquaculture. I hope that *Strangers on Familiar Soil* inspires environmental historians to locate other compelling dyads (and triads?) across the globe.

It should be obvious that I appreciate how Melillo’s book recovers specific transnational linkages as examples of global connections that generally shaped the modern world. However, I’m not convinced that Chile decisively shaped California, or vice versa, despite 150+ years of episodic and sometimes intensive exchanges. In Melillo’s narrative, California (or the U.S.?) sends *Pinus radiata*, California poppy, redwood lumber, one prominent “human vector” (capitalist Henry Meiggs), and UC-Davis experts. In return, Chile sends pre-abandoned ships, sex workers, miners, mining techniques, potatoes, flour, alfalfa, sodium nitrate, exchange students, and novelist Isabel Allende. While all these things are interesting and important—Monterey pine looms large in Thomas Miller Klubock’s *La Frontera: Forests and Ecological Conflict in Chile’s Frontier Territory* (2014)—they aren’t equally important.

Consider nitrate. I’m skeptical of Melillo’s claim that mined fertilizer from Chile was essential to the early success of California’s citrus industry. To be convinced, I would need to see more economic data. In my reading of the sources, the early citrus industry almost *failed* for all kinds of reasons, or what growers called “problems”: the problem of fertilization, yes, and also water supply, irrigation, frost, disease, infestation, biological control, grafting, pruning, curing, storage, packing, shipping, merchandising, advertising, overproduction, and not least of all labor. Everything about these introduced subtropical plants required inputs and outputs to and from distant places, regions, and nations. By the 1920s, when the industry finally consolidated into the Sunkist empire, the Haber-Bosch process had obviated the

need for nitrate. In the previous era, many citrus ranchers indeed experimented with “Chile saltpeter.” Others relied on cover crops, mulch, cottonseed meal, potash, and/or animal byproducts: tankage, bonemeal, stable manure, whale blood, fish scrap, and guano from birds and bats. Some used no fertilizer because they intended to replace their trees or flip their fruited land on a short-term investment schedule.

By following one connective line, Melillo perhaps blinds himself to alternative lines as well as *non*-connections. The fact that Milton Friedman retired to the Hoover Institution and Arnold Harberger moved to UCLA doesn’t make the Chicago influence on Chilean economic policy remotely “Californian.” I wish Melillo had traced additional *environmental* connections between California and Chile, such as rainbow trout, mountaineering, or the outdoor retailers Patagonia and North Face (including the controversial land transactions of the late Douglas Tompkins). Melillo surprised me by ending his connective study on a comparative note by examining regionalist myths of exceptionalism.

In short, this pithy book left me wanting more, which may be the surest sign of a good history. Creatively devised and gracefully written, *Strangers on Familiar Soil* helped me better understand the cross-fertilization of California and Chile. This relationship should be known more widely. American foodies who encounter year-round “fresh” fruit and affordable wine at the supermarket rarely consider how Chile and California, comparable climate zones on similar longitudes and opposite latitudes, function as counterseasonal complements within global capitalism. Examinations of “neo-Europes” by Alfred Crosby and Thomas R. Dunlap deserve to be matched by studies of the trans-Mediterranean. Melillo’s prize-winning monograph (duograph?) advances that project.

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**Comments by Tiago Saraiva, Drexel University**

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**S***trangers on Familiar Soil* by Edward D. Melillo is an important book for anyone interested in how to write transnational history. The author masterfully shows how productive it can be to bring together the history of apparently disparate places: The history of California looks very different when one seriously incorporates Chilean contributions; the history of Chile changes profoundly when its Californian elements are given due attention. One way Melillo weaves the historical ties between the two regions is to trace the trajectories of Chilean migrant laborers disembarking in San Francisco or the undertakings of Californian businessmen in Chile. But he doesn't limit himself to following humans around. Climate, crops, chemical compounds, pests, trees, are all subjects essential to his narrative. Melillo's book suggests that scholars less attentive to the significance of such environmental factors in history will find it harder to break away from the constraints of national or local units of historical analysis. By skillfully engaging the environment, Melillo convincingly demonstrates the relevance of the field of environmental history for ambitious explorations of new historical scales.

And grand ambitions don't have to lead to heavy-handed writing. *Strangers on Familiar Soil* reads easily with a clear-cut structure based on the two regional settings and a loose chronology: Five chapters on how Chilean is the history of California from the late eighteenth century expeditions of French navigator La Perouse to the 1920s chemically based agribusiness; three chapters on how Californian is the history of Chile from railroad endeavors of the mid nineteenth century to late twentieth century neoliberalism; one final chapter dedicated to challenge notions of exceptionalism applied to both Chile and California. Each chapter unfolds from the exploration of the disparate elements that are constitutive of the Chile-California connection: potatoes, pine trees, wheat, laborers, mining technologies, nitrates, railroads, vines, agricultural scientists. In the introduction, Melillo offers the reader a classificatory framework to evaluate the nature of the historical spatial connections established through the travels of such things. He distinguishes among 1) displacements, or moves from one place to another with little influence on zones of origin; 2) exchanges, leading to "profound transformative effects for both sides of the interaction"; and 3) influences, in which human intentions of molding one place on the image of the other are explicit. The classification measures thus the intensity of connections—from less intense displacements to highly intense influences—and goes beyond the case of the Chile-California history, promising to be of great interest for any historian tinkering with historical spatial scales. Such high promises deserve we explore in more detail its virtues and possible limitations.

Melillo sets himself a high bar against which to evaluate his efforts. More than a catalogue of things Chilean found in California and vice-versa, he is only interested in detailing those things that made a difference on how major social or environmental changes unfolded in time. The author warns us namely against

“contributionist history” and the dangers of only adding new empirical material to already well known historical dynamics. One of the convincing examples offered in the book is the travel of nitrogen from Chile to California in the form of alfalfa and sodium nitrate, the first sustaining the dairy business of Northern California and the second the citrus orchards of Southern California. No scholar familiar with the history of California would deny the importance of milk and oranges in the political economy of the state, nevertheless it hasn’t been properly understood that alfalfa travels depended on the environmental similarities between Chile and California, which challenges traditional US historiography obsessed with East to West transfers at the same time that it reveals the importance of seriously considering Pacific history.

The invisibility of Chile among US historians is only more scandalous in the case of the use of sodium nitrate allowing for no less than the transformation of California from wheat country into a fruit orchard in the late nineteenth century. While fruit trees produced much higher profits than wheat, with citrus responsible for the first economic boom of the Los Angeles region in the first decades of the twentieth century, they also demanded much higher quantities of nitrogen than grains which they got from imported Chilean sodium nitrate. And here Melillo is at his best, writing as a single narrative the history of the development of agribusiness in California and the history of mining nitrate in the desert regions of Northern Chile. Laborers from Chile, Bolivia and Peru working the mines of El Norte Grande under a debt peonage regime are now an obligatory part of any full account of Southern California history. In this case, according to Melillo’s classification, one is dealing with an ‘exchange’ with major consequences in Chile and not only with a ‘displacement’ as was the case of alfalfa. The proper study of such an ‘exchange’ demands in addition to the typical tools of the environmental historian of taking seriously nitrogen, the engagement with labor history and its attention to workers. It deserves to be noticed that this crossing of environmental history and labor history to produce more relevant transnational history is another of the major virtues of the book.

Not all Melillo’s cases are this persuasive. Take the displacement of the potato undertaken by the French navigator La Perouse in 1786 described in the text as “first major biological connection between Spain’s hinterland provinces of California and Chile.” No knowledgeable scholar of Californian agricultural history would deny the importance of this tuber in the state’s agricultural boom of the nineteenth century and in feeding 49ers looking for gold. But it is a stretch to assume that we are talking of the same potatoes. In fact, the potatoes that thrived in California in the end of the nineteenth century and in other western states, most famously Idaho, had travelled from eastern states like Massachusetts.<sup>7</sup> The late eighteenth century displacement of the potato from Chile to California certainly suggests the role of

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<sup>7</sup> The genealogy of the famous russet potato, for example, goes back to Massachusetts and previously to that to Chile. In this case we have Chile arriving in California not through the Pacific connection but via a previous station in the Eastern US.

ships as transoceanic dispersal agents but nothing in Melillo's narrative demonstrates that things would have been different if La Perouse didn't bring Chilean potatoes in his ship, since these would arrive later in California via many other routes, namely from the East. Although the author rightly criticizes histories of plant transfers told as isolated events, his focus on La Perouse's gift of Chilean potatoes to Spanish Franciscans of Mission Carmel in California reads too much as a typical Columbian exchange narrative, only with a change of scenery from the Atlantic to the Pacific. The historical relevance criteria Melillo emphasized in the introduction and throughout the book to justify attention to things Chilean doesn't seem to stand for La Perouse's Chilean potatoes.

Such doubts don't apply to wheat for which the author offers solid evidence of the Californian dependence of Chilean flour in the mid nineteenth century. More, the reader learns how even when California became self-sufficient in wheat its production was based on cultivating varieties of Chilean origin, namely Chile Club Wheat. This has important historiographic consequences since historians only looking at import/export statistics would have missed the fact that Californian grain surplus depended on seeds of Chilean origin. Groundbreaking scholarly work by Allan Olmstead and Paul Rhode, and more recently by Courtney Fullilove, has shown the relevance of understanding the different varieties involved in wheat stories in order to account for the expansion of the wheat frontier across the world in the second half of the nineteenth century. Potatoes are not just potatoes, as wheat is not just wheat, which is acknowledged by Melillo but not fully explored. The advantages of Chile Club Wheat for cultivation in California are taken at face value from contemporary descriptions without historically problematizing opting for one form of wheat over another.<sup>8</sup> For this reviewer, the recognition that many of the natural elements that constitute the materials environmental historians write their histories with are not just things of nature but things whose nature cannot be fully grasped without referring to human interventions constitutes one of the main challenges for the field. And therefore, history of technology and history of science, two disciplines that inquire how humans engage the natural world can be of great value to environmental historians writing new global histories.

Considering the importance of experts when tracing Californian presence in Chile makes the case for using the tools of the trade of historians of science and technology more compelling in studies of transnational connections. Eden Medina's explorations of how cybernetics travelled to Chile embodying Salvador Allende's socialist reforms are a possible example of such a study.<sup>9</sup> Melillo provocatively describes the continuities between the University of California and the University of Chile agreement that brought into Chile Californian style agribusiness in the 1960s and the later neoliberal policies imported from the University of Chicago during the dark Pinochet years. Agriculture experts from UC Davis are put in a continuum with

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<sup>8</sup> The same can be said concerning the discussion of different grapes constituting Chilean and Californian vineyards in chapter 7.

<sup>9</sup> Eden Medina, *Cybernetic Revolutionaries*



Chicago economists, with both groups contributing to transform Chile into a major exporter of unprocessed natural resources: “the Davis Boys had, perhaps unwittingly, built a model export sector for the Chicago Boys to use when implementing their extreme vision for Chile’s future.” Such connection falls under the category of ‘influence’ in Melillo’s general framework, one in which humans actively pursue to model one place at the image of the other. What seems to be missing in the study of this influence is an attention to the actual material dimensions of the connection. We don’t learn much about the concrete fruits Chile exported under the influence of the Davis Boys and the conditions of their production. As humans get center stage the narrative tends to focus on policies and institutional arrangements losing sight of the practices scientists and engineers employed to materialize ideological commitments. Tracing how previous connections with California set the conditions for the implementation of emblematic policies of the Pinochet regime is an important historiographic undertaking, but by relying on the more traditional sources and methods of diplomatic history Melillo’s strong case for having us look at such improbable objects as alfalfa or ship hulls seems less compelling. In other words, ‘influences’ being the category in which connections are more intense, nonhumans should have stronger presence in historical narratives if one wants to sustain the claim that the best transnational history has to be environmental history. This reviewer is willing to use the high bar set by Melillo to probe the soundness of this bold claim. Many of the criticisms developed here were after all no more than reflections on how the author accomplished the historical ambitions to which he himself had committed. Melillo’s chapters do not all fair equally against such bar, but his book will become an obligatory reference for any ambitious global historian studying underappreciated transnational connections.



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**Response by Edward Dallam Melillo, Amherst College**

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I would like to begin by thanking Chris Jones, Ian Tyrrell, Jared Farmer, and Tiago Saraiva for their kind words and their thoughtful critiques. It is exhilarating to receive wide-ranging feedback from such respected scholars. One of the great pleasures of writing a book is participating in the conversations it generates. Many discussions might emerge from the three reviews featured in this roundtable. I have followed a few of these threads in the hopes that they will be useful and enjoyable to readers.

When revising my manuscript, I hemmed and hawed about how to arrange the “connections” that enliven the book. A project as sprawling as this begged for succinct organizational rubrics. At a more fundamental level, the trans-hemispheric movements of people, ideas, biota, and commodities that animate *Strangers on Familiar Soil* are not functionally interchangeable. Building a hotel in the hull of an abandoned ship is simply not equivalent to promoting a coup d’état. My conceptual schema of *displacements*, *exchanges*, and *influences* emerged as an attempt to address these vexing problems. In his review, Tiago Saraiva describes my opening gambit in much more eloquent terms than the ones I employ: “The classification measures thus the intensity of connections—from less intense displacements to highly intense influences—and goes beyond the case of the Chile-California history, promising to be of great interest for any historian tinkering with historical spatial scales.” Jared Farmer is less pleased with my organizational plan. I sympathize with his concerns about the imperfections of my classification system. However, if I had simply allocated these various connections to an array of disciplinary silos—“social, cultural, intellectual, economic, ecological,” as Farmer suggests—I would have reified many of the dividing practices that I find so limiting. Among the most important revelations of environmental history is that these categories often conceal more than they reveal.

Perhaps my resistance to intellectual fragmentation is why I take Farmer’s comment that “the genre of Melillo’s history is hard to pin” as a compliment of the highest order. One of the many remarkable elements of William Cronon’s work, to which Farmer so generously compares *Strangers on Familiar Soil* in his opening remarks, is its genre-bending, capacious quality. I recall the intoxicating vertigo that overcame me when I first cracked open *Changes in the Land* some three decades ago; tree rings and fossilized pollen from bog sediments had joined travel accounts, court proceedings, and town meeting records as legitimate primary sources! I aspire to elicit some of that same constructive disorientation among my readers.

Other conscious decisions about method also shaped the contours of *Strangers on Familiar Soil*. From my introductory homage to Fernand Braudel onward, it should be readily apparent to readers that I cast my lot with “transnational history” over “comparative history.” On page 202, I repeat Micol Seigel’s pithy formulation: “Transnational history treats the nation as one among a range of social phenomena

to be studied, rather than the frame of the study itself.”<sup>10</sup> Certainly, nations have not ceased to matter. As we see time and again, from the Rio Grande to the Gaza Strip, borders and territorially bounded political regimes profoundly shape the lives of the people and other organisms living within them, outside of them, and under them. It is crucial that our students and our readers appreciate the concrete realities imposed by such constructs. That said, it is not enough to let our own explorations be circumscribed by these limits. There are too many subjects out there—from peripatetic legumes to itinerant sex workers—that subvert formal categories and elude traditional boundaries.

This is not rhetorical calisthenics; there is much at stake here. Anthropologist Alf Hornborg has critiqued the tendency of many recent environmental histories to “treat different regions in terms of ‘comparisons’ rather than ‘connections.’” As Hornborg points out, “Considering that many of these authors use words such as ‘global’ and ‘world’ in the titles of their books, it is remarkable that so few of them really consider the world as a system, in which environmental transformations in two geographically distant countries or regions may be closely intertwined in terms of causal connections. There is very little recognition of the fact that economic expansion in one area often implies environmental load displacement to other areas.”<sup>11</sup>

Comparison has its place. There are virtues to evaluating the likenesses and divergences among multiple case studies. However, I do not see my final chapter, “Breaking the Rule of Exceptions,” as “ending [my] connective study on a comparative note by examining regionalist myths of exceptionalism” (Farmer). Yes, there is plenty of comparison going on in this chapter, but my ambition is to enhance our perspective on how the transnational linkages between Chile and California intertwined in the discourses of a “Pacific Age” (183). As I hope to have shown, regional exceptionalism frequently serves as an ideological veil that hides these more expansive, transnational interdependencies. Thus, Chapter 9 returns to the book’s leitmotif: “Seen along a longitudinal axis, islands and icebergs look more like peaks and valleys in a cordillera” (195).

This chapter is one of several where I attempted to address “Chilean cultural aspirations,” as Tyrrell calls them in his review. For much of Chile’s postcolonial history, racial attitudes about whiteness and the suppression of Mapuche identity have been deeply entangled. In more recent decades, a geo-cultural narrative of a Pacific future has also emerged to sustain the ambitions of a nation that has not always been fond of its continental neighbors. I try to show how certain models, like U.S.-style “Indian Removal,” influenced Chilean thinkers and policymakers (187)

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<sup>10</sup> Micol Seigel, “*Beyond Compare*: Comparative Method after the Transnational Turn,” *Radical History Review* 91 (Winter 2005): 63.

<sup>11</sup> Alf Hornborg, “Toward a Truly Global Environmental History: A Review Article,” *Review (Fernand Braudel Center)* 33, no. 4 (2010): 295-96.

and how Chilean ambitions to be the Great Britain of Latin America (184-185) diverged from North American cultural tendencies.

More broadly, my decisions about what themes to pursue along the Chile-California corridor involved difficult deliberations. Yes, I willingly agree with Farmer that I could have said “more about Peru, Panama, Mexico, Hawai‘i, and Australia,” and I might have followed many of the other intriguing itineraries he suggests, chasing numerous topics like: “El Niño, earthquakes, medflies, dams, deserts, foehn winds, wind and solar power, land conservation, urbanization...specialty crops and seasonal workers in the era of free trade...rainbow trout, mountaineering, or the outdoor retailers Patagonia and North Face (including the controversial land dealings of the late Douglas Tompkins).” Then again, the book does manage to cover 222 years of trans-hemispheric history, encompassing two continents and myriad processes that crisscross the world’s largest ocean.

Many of us have experienced the frustrations that arise when we survey the piles of hard-won material scattered across the cutting room floor. The temptation (and I certainly plead guilty here) is to add, not to subtract. However, it is by nipping and tucking that we make our books readable and teachable for audiences beyond our cohort of experts. My extremely talented editor at Yale University Press, Jean Thomson Black, was unwavering in her assertion that the main text of the book should not exceed 200 pages. In retrospect, I am grateful for her instincts.

The process of writing history is a harrowing balancing act in which theoretical concerns, empirical assertions, and narrative strategies often exert countervailing forces. As Ian Tyrrell astutely points out, it is a challenge to retain “a focus on a particular set of exchanges (Chile-California) in the context of the broader global system.”<sup>12</sup> There could be more to say about how national policies and global linkages—like protectionist legislation that emanated from Washington, D.C. and capital that flowed from Britain—shaped the processes I address in the book. Surely, as Tyrrell speculates, U.S. tariffs in the 1890s affected Chilean wool exports. Several articles substantiate such outcomes.<sup>13</sup> However, I saw no evidence of a California connection here. This U.S. state was never the destination for much Chilean wool; California had its own, wide-ranging (pun intended) sheep operations during the nineteenth century.<sup>14</sup>

The history of statecraft is neither my forte nor my passion. Several well-known studies of Chile-U.S. diplomatic relations do an admirable job of chronicling these nation-to-nation interactions. These books and articles enriched my bibliography, and they informed my ideas at many junctures. In the context of my own archival

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<sup>12</sup> As the victim of many a missing “l” in spellings of my surname, I am very sympathetic to the brutal treatments of your name. I apologize for my editorial lapse!

<sup>13</sup> For example: Chester Whitney Wright, “Wool-Growing and the Tariff Since 1890,” *The Quarterly Journal of Economics* 19, no. 4 (August 1905): 610-47.

<sup>14</sup> On these, see David Iglar, *Industrial Cowboys: Miller & Lux and the Transformation of the Far West, 1850-1920* (Berkeley: University of California Press, 2001).

research, what intrigued me was how often California acted like a nation-state, legislating wide-ranging policies that seemed to challenge “The Commerce Clause” of the U.S. Constitution (Article 1, Section 8, Clause 3). Constitutional scholars have often interpreted this clause as both a grant of congressional authority and a restriction on the regulatory clout of the states. Examples of California officials asserting influence over U.S. foreign policy recur in my findings, stretching from the Foreign Miner’s Tax of 1850 all the way to the Chile-California Program of the 1960s. I would be intrigued to see a legal historian pursue this theme further.

Uncoupled from the biological realities of their Mediterranean ecosystems and unmoored from a shared colonial past as the polar extremes of Spain’s Pacific empire, the California-Chile pairing would function quite differently. A complex interplay of nature and culture structures the routes that historians take, as much as it shapes the pathways travelled by the historical actors, human and otherwise, that we study. What struck me from the very outset of this project was just how immense the *à la carte* menu of interactions has been between these two imagined communities. Farmer’s voluminous wish list speaks to this fecundity. Despite being a keen skeptic of California exceptionalism, I am still willing to admit that it made my life easier to be comparing the country of Chile to a state that now has the world’s sixth largest economy (as of the book’s 2015 publication date).

Befitting its vast subject matter, California history is a colossal enterprise with its own subfields and distinctive genres. Few readers of H-Environment will need reminding that Jared Farmer knows more than almost anyone in the world about the history of California’s trees.<sup>15</sup> His incredulity toward the pivotal role of Chilean sodium nitrate in the development of the state’s citriculture industry is compelling and provocative. I will do my best to respond.

I concur with Farmer’s assertion that California’s citrus groves were fragile, highly contingent enterprises, even in the best of times. Despite the precariousness of the state’s citriculture industry, one of its unwavering requirements was a quite literal element, nitrogen. Indeed, as two citrus researchers recently explained, “[Nitrogen] has more influence on tree growth, appearance, and fruit production/quality than any other mineral element.”<sup>16</sup> In Chapter 5, I contend that this key ingredient entered California’s citrus groves in the form of *salitre* (sodium nitrate) from northern Chile’s Atacama Desert in far greater quantities and for a much longer period than historians have previously assumed.

Among the significant findings of my research into fertilizer history is that the 1909-1910 invention of the Haber-Bosch process for industrially synthesizing ammonia from nitrogen and hydrogen *did not* obviate the need for Chilean sodium nitrate. I

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<sup>15</sup> Jared Farmer, *Trees in Paradise: A California History* (New York: W.W. Norton & Co., 2013), especially 221-332.

<sup>16</sup> Mongi Zekri and Tom Obreza, “Nitrogen (N) for Citrus Trees,” *University of Florida IFAS Extension Publication #SL378* (July 2013): 2. Document available at: <<http://edis.ifas.ufl.edu/ss580>>

make this point most forcefully and comprehensively in my 2012 article on “The First Green Revolution: Debt Peonage and the Making of the Nitrogen Fertilizer Trade, 1840-1930.”<sup>17</sup> One of several drawbacks to the Haber-Bosch process is that it requires large, expensive, centralized plants.<sup>18</sup> The capital-intensive, geographically specific nature of ammonia production is one of several factors that gave nitrogen-fertilizer alternatives a fighting chance throughout the first half of the twentieth century. A second reason is that World War II produced extreme shortages of industrially synthesized ammonium nitrate (NH<sub>4</sub>NO<sub>3</sub>). This substance was directed towards explosives manufacture during the war.<sup>19</sup>

In the interwar years, the California citrus boom was in full swing. During 1936, California’s citrus industry earned \$97 million in revenues, making it the state’s second most profitable business venture (after petroleum).<sup>20</sup> How to fertilize this massive operation was of great concern to farmers and bureaucrats. As the editors of the *Healdsburg Tribune* reported in 1942, “The nitrogenous fertilizer situation for 1943 is now somewhat uncertain.... However, nitrate of soda supplies in California may be sufficiently large to overcome any serious shortage that would interfere with the production of essential crops.”<sup>21</sup> Figures from the California Department of Agriculture for 1939-1945 show that during these seven years of the war, California imported a total of 196,218 tons of Chilean sodium nitrate.<sup>22</sup> Returning to Tyrrell’s questions about broader economic processes that shaped the Chile-California connection, it is worth noting that this California windfall for the Chilean sodium nitrate market was connected to concurrent political developments at the national level. During the war, U.S. Federal authorities stabilized the price of Chilean sodium nitrate so that farmers could have much-needed access to nitrogen for their crops. In 1942, California Governor Culbert L. Olson announced that the Office of Price Administration (OPA) in Washington, D.C. had frozen “prices for [Chilean] nitrate of soda, sulphate of ammonia and other minerals used in fertilizer.”<sup>23</sup> Simultaneously, the U.S. Department of Agriculture encouraged California and Florida citrus growers to increase output of a critical source of Vitamin C for troops abroad and families on

<sup>17</sup> Edward D. Melillo, “The First Green Revolution: Debt Peonage and the Making of the Nitrogen Fertilizer Trade, 1840-1930,” *The American Historical Review* 117, no. 4 (October 2012): 1028-1060

<sup>18</sup> The hydrogen feedstock is almost always methane (CH<sub>4</sub>), so plants are frequently located near supplies of natural gas to avoid prohibitive transportation costs.

<sup>19</sup> Norman Borlaug, “The Green Revolution Revisited and the Road Ahead,” in Christopher Schlotmann et al., eds., *Environment and Society: A Reader* (New York: New York University Press, 2017), 345.

<sup>20</sup> Gilbert G. González, *Labor and Community: Mexican Citrus Worker Villages in a Southern California County, 1900-1950* (Urbana: University of Illinois Press, 1994), 6.

<sup>21</sup> “Shortage Seen in Supplies of Fertilizers,” *Healdsburg Tribune, Enterprise and Scimitar* (July 13, 1942), 4. Also see “Farm Advisor War Bulletins,” *Santa Cruz Sentinel* (May 29, 1942), 8; and “Shortage of Fertilizers in Future Likely,” *San Bernardino Sun* (June 21, 1942), 17. “Nitrate of soda” was another name for Chilean sodium nitrate.

<sup>22</sup> California Bureau of Chemistry, *Fertilizing Materials* (Sacramento: California Department of Agriculture, Field Crops and Agricultural Chemicals, 1960), 10-11 [See Table: “Segregated Agriculture Material Tonnage].

<sup>23</sup> “Fertilizer Prices ‘Frozen’ By OPA Order,” *Healdsburg Tribune, Enterprise and Scimitar* (March 2, 1942), 2.



the home front. Rather than declining during the war, California's Valencia orange production actually peaked in 1946.<sup>24</sup>

But what about all the other fertilizer alternatives that Farmer proposes in his review? His nutrient-dense list includes: "cover crops, mulch, cottonseed meal, potash, and/or any number of animal byproducts: tankage, bonemeal, stable manure, whale blood, fish scrap, and guano from birds and bats." Yes, some of these supplements found niches in California's soils. However, the replacement of such heterogeneous sources of organic fertilizer with concentrated, chemically analyzed commodity fertilizer is well documented in my own research and the work of several other historians. As Gregory A. Barton has pointed out, "By 1900, such conventional fertilizers as ashes and manure, though not forgotten, became obsolete."<sup>25</sup> Peruvian guano provided a bridge from organic manures to standardized commodity fertilizers, but stocks of this bird excrement had been harvested from the Chincha Islands at astounding rates in the decades between the 1840s and 1870s. By the late 1870s Peru had reached "peak guano," in Greg Cushman's felicitous phrasing. Its exports of bird dung had begun a precipitous decline.<sup>26</sup>

Other nitrogen-rich alternatives were also hard to come by. In the intensively irrigated, arid regions of Southern California's citriculture orchards, leguminous (nitrogen-fixing) cover crops and manures were frequently in short supply. Writing in 1934 about citrus production in the Los Angeles Basin, University of California, Los Angeles geography professor Clifford M. Zierer commented on the dearth of traditional sources of nitrogen for crops: "Animal manures...are scarce in the specialized citrus districts," and "the general substitution of tractors for horses in citrus districts has increased the difficulty of securing animal fertilizers."<sup>27</sup> Used extensively in the state's orange groves since the 1890s, Chilean sodium nitrate was a highly standardized, thoroughly tested, and well-advertised product that offered California farmers an alternative to a seemingly "ancient" repertoire of nutrient sources.

When California orange growers did resort to older, non-standardized fertilizers, such as wet garbage and manures, widespread objections from the public frequently occurred. For example, in 1944, the City Board of Health in Ontario, California responded to a protest petition that featured a hundred signatures from local residents. The Ontario City Council passed an ordinance prohibiting the use of hog

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<sup>24</sup> Daniel Geisseler and William R. Horwath, "Citrus Production in California," *A Publication of the University of California, Davis and the Fertilizer Research and Education Program*, page 1. Available online: <[https://apps1.cdfa.ca.gov/FertilizerResearch/docs/Citrus\\_Production\\_CA.pdf](https://apps1.cdfa.ca.gov/FertilizerResearch/docs/Citrus_Production_CA.pdf)>

<sup>25</sup> Gregory A. Barton, *The Global History of Organic Farming* (New York: Oxford University Press, 2018), 10.

<sup>26</sup> Melillo, "The First Green Revolution," 1045. Also see Gregory Todd Cushman, *Guano and the Opening of the Pacific World: A Global Ecological History* (New York: Cambridge University Press, 2013), 60.

<sup>27</sup> Clifford M. Zierer, "The Citrus Fruit Industry of the Los Angeles Basin," *Economic Geography* 10, no. 1 (January 1934): 68.

manure and wet garbage as fertilizer on local orange groves because Ontario's citizens were upset by the smell and filth of these seemingly outmoded soil supplements.<sup>28</sup> In retrospect, ecologically minded historians can (and should) lament these "metabolic rifts" between the refuse of the city and the produce of the country. However, at the time, these transitions to commodity fertilizers were among the hallmarks of scientific agriculture.

Beyond oranges, Saraiva delves into my treatment of other cultivars. He is perceptive about the need for further analysis of the quite literal fruits of the Davis Boys' efforts. Saraiva also raises valuable questions about the role of potatoes in the book's opening chapter. At various junctures, I clarify that "botanical migrations rarely occur as one-time, isolated events" (24). This general claim certainly applies to the particular case of the arrival of the potato (*Solanum tuberosum*) in California. As Saraiva accurately points out, "The genealogy of the famous russet potato, for example, goes back to Massachusetts and previously to that to Chile. In this case we have Chile arriving in California not through the Pacific connection but via a previous station in the Eastern US." There is a touch of irony here. Potatoes are ubiquitous items in the gold-rush era ships' manifests and customs invoices that I studied at both the Massachusetts Historical Society and the Bancroft Library at the University of California, Berkeley. Since very few Forty-niners from the whaling ports and maritime entrepôts of Massachusetts took overland trail routes to California, spuds from the Bay State were, in all likelihood, arriving in San Francisco by ship, via a stopover in Chile after rounding Cape Horn! This might seem insignificant, but it confirms my contention about the shortcomings of our "westerling," land-locked vision of the processes that shaped North America's Pacific shores.

The story of the 1786 arrival of Chilean potatoes at Mission Carmel also suggests some of the merits to commencing California histories prior to the 1840s. As connections like this one show, there was a trans-hemispheric Pacific World of circulating biota that intersected and altered the flora, fauna, and human cultures of Indian communities, Spanish presidios and pueblos, and Catholic missions up and down the western coast of the Americas more than half a century prior to the gold rush. I was especially intrigued to find evidence of the rapid incorporation of potatoes—in this case, ones that were most certainly descended from La Pérouse's Chilean tubers—into the culinary repertoires of Ohlone Indians in the San Francisco Bay Area (24), long before James Marshall's fabled discovery of gold at Sutter's Mill.

I heartily agree with Saraiva that environmental historians should avoid blindly adhering to a Columbian Exchange model.<sup>29</sup> Emerging evidence challenges some of

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<sup>28</sup> "Protest on Ranch Odors Bring Ban," *Los Angeles Times* (June 21, 1944), A2. For a similar case of popular outrage at manure and wet garbage use in the orange groves of Upland, California, see "Protests Made at Upland Council Meeting Over Curb on Fertilizer," *San Bernardino Sun* (October 17, 1942), 10.

<sup>29</sup> Particularly useful in this ongoing reassessment of the Columbian Exchange is Ned Blackhawk's article, "Teaching the Columbian Exchange," *OAH Magazine of History* 27, no. 4 (2013): 31-34.



the basic assumptions of Alfred Crosby's archetypes, especially in regions beyond the Atlantic World. For example, most historians have assumed that major Polynesian influences on the composition of the Pacific's flora and fauna receded in the eighteenth century, giving way to the dominant environmental impacts of European explorers. As I have found, the story of Kona Coffee upends this established narrative. It was a Kanaka Maoli (Native Hawaiian)—namely O'ahu's governor Boki Kamā'ule'ule—who brought 30 coffee plants from Brazil to Hawai'i in 1825. The cuttings from the bushes that Boki planted at his Mānoa estate became the stock for the first successful Kona Coffee crop.<sup>30</sup>

I am getting ahead of myself here. This is a conversation for another day, another book, and another roundtable. Once again, my sincere thanks go out to my colleagues who participated in this lively discussion.

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<sup>30</sup> Edward D. Melillo, "From Boki's Beans to Kona Coffee: The 'Ōiwi (Native) Roots of an Exotic Species," in Ryan Tucker Jones and Edward D. Melillo, eds., *Migrant Ecologies: Environmental Histories of the Pacific World* (Honolulu: University of Hawai'i Press, forthcoming).

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### About the Contributors

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**Christopher F. Jones**, Associate Professor of History at Arizona State University, studies the histories of energy, environment, and technology. He is the author of *Routes of Power: Energy and Modern America* (Harvard, 2014) and is currently working on a project examining the relationships between economic theories of growth and the depletion of non-renewable natural resources.

**Edward ("Ted") Dallam Melillo** is an Associate Professor of History and Environmental Studies at Amherst College. Alfred A. Knopf will publish his book, *The Butterfly Effect: Insects and the Making of the Modern World* in 2019. Ted is currently in Hawai'i on a Mellon New Directions Fellowship, where he is learning Hawaiian and editing a volume with Ryan Tucker Jones, *Migrant Ecologies: Environmental Histories of the Pacific World* (Honolulu: University of Hawai'i Press, forthcoming).

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**Ian Tyrrell** is Emeritus Professor of History at the University of New South Wales. He is author of several books and articles including "American Exceptionalism in an Age of International History" (*American Historical Review*; 1991); *True Gardens of the Gods* (California, 1999); *Transnational Nation* (Palgrave Macmillan, 2007); and *Reforming the World* (Princeton, 2010). His *Crisis of the Wasteful Nation* (Chicago, 2015) was discussed in a March, 2016 *H-Environment Roundtable Review*.

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