



# H-Environment

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## H-Environment Roundtable Reviews

Volume 8, No. 5 (2018)  
<https://networks.h-net.org/h-environment>

Publication date: October 3, 2018  
Roundtable Review Editor:  
Christopher F. Jones

**Corey Ross, *Ecology and Power in the Age of Empire: Europe and the Transformation of the Tropical World* (Oxford: Oxford University Press, 2017). ISBN: 9780199590414.**

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

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**S**weeping is an easy word to bandy about, perhaps so much that it can seem trite. And yet, it fits **Corey Ross's** rich and compelling analysis of the environmental consequences of Europe's tropical empires so well. ***Ecology and Power in the Age of Empire*** takes readers on a sweeping journey across much of the tropical world, examining the patterns of commodity production, colonial management, local autonomy, and ecological legacies from the middle of the nineteenth to the middle of the twentieth century. The book's geographic scope includes dozens of locations such as Angola, Borneo, Brazil, Burma, Cameroon, Congo, the East Indies, Ghana, India, Java, Kenya, Nigeria, South Africa, and Sumatra; linguistically, it is based on source material in English, French, German, and Dutch. In addition to analyzing a diverse suite of commodities (cotton, cocoa, rubber, tin, copper, and oil), Ross also adds an assessment of ideas about environmental management. Any one of the chapters, as reviewer Richard Tucker notes, could easily be its own book. That Ross has condensed their stories and placed them side by side is a remarkable intellectual achievement, a synthesis that provides new insights into each of the cases as well as enabling comparative analysis.

While emphasizing the common themes of European colonization and commodity production in the tropical world, Ross is keenly aware of the important ways local cultures, governance systems, and natural ecosystems interacted to produce varied outcomes. In the case of certain goods in certain places, such as cocoa in West Africa, local smallholders eagerly chose to participate in production, since they were able to do so in ways that complemented their existing practices. By clearing new patches of forests, they could plant small cocoa trees and grow food crops in between them for subsistence until the cocoa trees reached maturity. With their knowledge of local ecosystems and interest in balancing production of local food with cash crops for export, they exceeded the efficiency of European-style plantation agriculture. By contrast, other commodities such as tin offered a poor fit with local practices and few benefits to smallholders. Tin could not be efficiently extracted alongside subsistence agriculture and held little appeal to locals. It was mined, therefore, largely by imported laborers using techniques that were so environmentally destructive that there remain many sites where vegetation still has not grown back, even decades later. These moonscapes offer a very different result from the interplay of empire, labor, local autonomy, and global capital. Each chapter, then, provides a new set of insights regarding the complex and frequently divergent social and ecological effects of empire that should be of interest to all environmental historians, regardless of their specialty.

Ross deserves commendation for writing such an ambitious book. Similarly, this panel's reviewers merit sincere plaudits for agreeing to comment on such a wide-ranging work. This was no easy assignment, yet all rose to the occasion admirably, raising crucial points for discussion. **Iftexhar Iqbal** opens the roundtable, devoting many of his comments to the tricky question of agency, wondering if Ross's attempts

to grant power to indigenous communities goes too far in blaming them for environmental decline. In addition, he points out the complexity of the category of smallholders in the tropical world, asking for clarification on how local differences in ownership patterns and cultural expectations might alter the book's conclusions. **Meredith McKittrick** continues the conversation, raising the topic of informal versus formal empire, and wondering how European sovereign control of tropical regions compared to the less official yet perhaps equally destructive economic coercion sponsored by global capitalism and the American state. Moreover, she inquires about the methodological challenges of connecting the complexities of local stories with the broad integration of a macro perspective. Finally, **Richard Tucker** places Ross's work into the context of commodity history, asking about which other commodities might be included to enrich the story, and crucially, what elements of these stories we need to know more about, such as gender, labor, and connections to military conquests. Ross concludes the roundtable, focusing in particular on questions of agency, empire, and declensionism.

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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**Comments by Iftekhar Iqbal, Universiti Brunei Darussalam, Brunei**

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“**A**uthors love praise, of course, but all praise makes it very difficult for them to craft a meaningful response.” I couldn’t agree more with the editorial suggestions for this forum, and therefore I will hold back much of the well-deserved praise for this extremely important book, except for a few pointers without which it would be a disservice to the author.

It is perhaps overused, but the term ‘grand’ fits the book so well. This is a grand synthesis of major environmental-historical literature, including works in French and German, dealing with imperial and postcolonial times. This is grand in spatial scale in capturing environmental changes in the vast tropical world and a comprehensive treatment of environmental changes during the so called period of “high imperialism.” The book is a treasure trove for students of environmental history, who can learn through an accessible narrative how six products that shaped our modern lifestyles (cotton, cocoa, rubber, tin, copper and oil) also changed the tropical ecology forever and how certain conservation measures left marks in colonial and postcolonial settings. There is little to disagree about the solid contribution of the book in the flourishing field of environmental history.

For this reader the main topic for further discussion concerns the question of agency. Ross makes it clear throughout the book that European colonial forces were not the sole arbiter of ecological fate of the colonies, not even in the high noon of imperialism. Ross “broadly endorses” the recent scholarly questioning of the idea that “there was much specifically “colonial” (or even European) about the way in which nineteenth-and twentieth-century colonial states approached the biophysical world.” Rather, Ross argues, “colonial regimes regularly built upon existing strategies for mobilizing resources and organizing landscapes, and their fundamental aims often coincided more closely with those of their predecessors, as well as many of their subjects” (p. 12).

This position resonates in Ross’s concluding remarks on postcolonial environmental challenges: “Our focus on the ‘legacies of empire’ is not intended to attribute primary responsibility to colonial-era precedents or the designs of powerful interests in global North, important though they were” (p. 382). Ross goes on to the extent of claiming that the empire used and relied so much on the local people in the colonies that this insight should help “provincialize” Europe as a “geographical space of human activity.” [p.416]. The allusion to Dipesh Chakrabarty’s well known book about the epistemic synergies among the colonized people is inversely corroborated by the interrogation of imperial power through Frederick Cooper’s allegory of the empire’s “long arm and weak fingers” (p.19), which seems to displace the long-drawn debates on diffusionist model of an overpowering centre and a vulnerable periphery at the receiving end. Reading the book from this vantage point of Ross, despite his many useful references to the impact of European dominance on the tropical ecology, the environmental transformations that are being narrated

here must be appreciated less as the work of European actors than of the “indigenous” people including local elites or a combination of all these forces. The quest for hybridization of agency in ecological changes in the tropical world is, then, the kernel of Ross’s book. But it seems that the responsibility of the colonised people in ecological changes is often stretched.

The term “Empire,” like “Europe,” in the book’s title comes as an eulogy for impotence, whereas the colonised people are relatively more empowered than have been imagined so far in the existing literature. To demonstrate the agency of non-Europeans or at least to establish that Europe was not the sole catalyst for ecological destruction in the tropical world, Ross turns to the smallholders, particularly in the contexts of cotton, rubber and cocoa. They are depicted as playing the most critical part in the ecologically unsustainable cultivation and extraction, often working under duress or in collaboration with the colonial conditions or by themselves autonomously. This is an intriguing point of departure, but awaits efforts to locate the smallholders in the register of imperial power and in their own social dynamics.

The questions about the smallholder’s agentive power must rest on a set of issues: At what point in the imperial-global era did the smallholders begin to produce a particular crop? What kind of land tenure was experienced by the smallholders? What sort of relations did they have with the market and what kind of credit relations were in place and after all, what was the nature of the structural process in which big modernizing colonial forces and institutions controlled the financial market even if these were supposedly less active in the production process? What do we learn about the role of the caste and the religious community (South Asia) or race (Southeast Asia) in the formation and working of the smallholders? What were the internal contestations between the smallholders and the local elite beyond the binary between Europe and the tropics? How did ecological changes impact these local production forces and how did that impact their capacity to change their ecology? Beyond these questions, the categories of the “local elite” and the “indigenous” are not adequately defined, so it’s not easy to understand the nature of autonomy of local agencies. The book could have discussed these issues to locate the agency of the smallholders at the social and political space of what has been termed as “agrarian environment.”<sup>1</sup> On the top of this, how may we locate these inner dynamics of the “local” in the context of environmental changes that were and are embedded in the world-systemic economic process? These questions may equally be applicable to any meaningful discussions of indigo, opium, rice or jute, the last item not being even mentioned.

The category of smallholder doesn’t generally work for tin, copper or oil extraction for obvious reasons. Here Ross brings in other forces, especially the Chinese. For example, he examines the failures of European imported mechanized techniques in tin mining and the predominance of the cheap Kongsu labourers arranged through

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<sup>1</sup> Arun Agrawal and K. Shivaramkrishnan eds., *Agrarian environments: Resources, Representations and Rule in India* (Duke University Press, 2000).

an efficient coolie recruitment network operated by the Chinese. Ross suggests that the abundance of Chinese labourers in the production process was linked to damages of the landscape (pp. 142, 146-7, 159). It would be good to learn in this context to what extent mining and extraction regimes were a colonial or indigenous form of organization of ecological resources.

The second part of the book discusses details of the pioneering role that the empire played in conservation efforts. It would have been useful if readers were introduced to indigenous patterns of ecological thoughts and conservation practices and their fate in the colonial era, rather than simply narrating the colonial-modern legacy of conservation. Colonial, as well as pre-colonial, environmental conservation was crucially linked with power, in which certain knowledge about nature was subsided or promoted. How do we examine these fault lines at the interface of nature and power, in their both colonial and pre-colonial manifestations? This question is particularly relevant in terms of the lack of qualification in Ross's suggestion that conservation measures led to opposition from indigenous people (p. 345).

In the third part of the book, the shortest of the three, the postcolonial local regains full power in its relations to nature. The global north has its presence, but continues under the auspices of a more unbridled postcolonial elite and a host of other interest groups. Ross refers to the postcolonial reality where farmers, merchants, entrepreneurs, officials, government institutions all promoted primary exports as a source of revenue, leading to the continuity of ecological deterioration (p. 414). Ross is of course correct in highlighting the greater rapacity and authority of post-colonial elites and other local forces in bringing about ecological destruction. However this critique of postcolonial forces in ecological changes could have gained more nuance if the structure of global political economy was brought into the discussions beyond the Green Revolution, which was integral to the Cold War politics hegemony than to local ecological policy regime.

Ross's narratives and arguments are an outgrowth of a recent historiographical trend in which agency is restored to the colonized, including the colonized elite as well as subalterns. Ross has done a tremendous job in extending these discussions on the cultural-political forces into the field of environmental history. Despite all the temptations, the book does not fall victim to a kind of imperial deism in which Europe creates the empire and then rarely interferes in its physical world. Instead, he sketches out a different process in which the empire unleashes a train of ecological destruction whose conductors and most of the passengers are predominantly non-European. Precisely because this train of ecological exploitation was not to be controlled by the weak fingers of the empire, the imperial arms became grossly lethal, from which the tropics could hardly escape, no matter whatever "power" they could conjure up at their disposal.

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**Comments by Meredith McKittrick, Georgetown University**

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The photograph on the cover of Corey Ross's sweeping study of imperialism and environmental history encapsulates the book's core: in the foreground a Javanese plantation, indigenous forest cleared and saplings planted amid the stumps; in the background the sea, the evacuation route for what that plantation would produce. The rubber is for Europe. But it is Java's, and not Europe's, forests that were felled to produce it. All around the tropical world in the late nineteenth and twentieth centuries, the once-intimate spatial relationship between the costs and benefits of environmental exploitation was definitively severed as imperialists and the economic ventures they enabled displaced the ecological costs of European prosperity onto their colonies.

This is the unifying theme of the first half of Ross' masterful book, told through six chapters focused on specific resources: cotton, cocoa, rubber, tin, copper, and oil. The second half of the book considers some of the long-term consequences of imperial exploitation, especially the emergence of scientific management, conservation, and development as both ideologies and mechanisms for dealing with environmental change. By training Ross is a historian of modern Germany, but he displays an impressive grasp of environmental and African history. The book offers an exhaustive survey of historical literature in four languages, supplemented with published primary sources, as it considers the impact of British, French, Dutch and German imperialism on the world's biosphere.

Ross's geographic and chronological focus is what has traditionally been called the New Imperialism. In this period of European expansion into Asia and Africa, Ross argues, "the unprecedented appetite for raw materials in the industrial metropolises" yielded equally unprecedented effects: a huge demand for natural resources from faraway places, new methods for extracting those resources, and vastly increased movements of living organisms around the world.<sup>2</sup> This focus makes for a compelling narrative that neatly roots dramatic changes in the biosphere to a certain configuration of political power.

When I read this book, I kept flashing back to Walter Rodney and Kenneth Pomeranz. Rodney was an African historian and Guyanese political activist. His 1972 book, *How Europe Underdeveloped Africa*, famously argued that European powers intentionally exploited their African colonies through policies that repatriated African surpluses to Europe. Africa's labor and resources fueled European prosperity, and they did so *by design*; Rodney argued that this structural relationship endured long after colonialism ended. In 2000, Pomeranz, a historian of China, argued in *The Great Divergence* that the rise of Western prosperity was largely the result of a kind of ecological substitution, whereby Britain in particular was able to draw on the natural resources of North America to circumvent its own

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<sup>2</sup> Corey Ross, *Ecology and Power in the Age of Empire: Europe and the Transformation of the Tropical World* (Oxford University Press 2017), 3.



resource scarcity. This substitution came primarily in the form of food and textiles from colonial plantations and wood from colonial forests, and it (along with coal deposits conveniently proximate to British centers of nascent industry) ultimately subsidized British industrialization and prosperity.<sup>3</sup>

Rodney and Pomeranz might appear to have little in common, focused as they are on different time periods, geographies, and assessments of European intentions. But their books were paradigm-changing in their explanations for the global disparities of wealth that we see today. Rodney saw naked exploitation and Pomeranz saw fortuitous windfall, but both grounded western prosperity in a new system that externalized the ecological costs of development. Historians have long accepted that a drive to control natural resources fueled imperialism to one extent or another, but Rodney and Pomeranz each in their own way showed why the physical transfer of those resources mattered. Ross makes the significance of that transfer explicit, arguing that imperialism allowed the metropolises to tap resource subsidies “as a means of overcoming the ecological limits that their own territories place on economic growth and commercial activity.”<sup>4</sup> He takes Rodney’s geographic and chronological focus and shows how the process Pomeranz described continued into the modern era – one windfall enabled economic transformations that generated the need for more such windfalls.

Perhaps not surprisingly, I also thought about John McNeill’s *Something New Under the Sun*, which remains the most comprehensive and articulate survey twentieth-century global environmental history. McNeill explores that history by traveling through the earth’s spheres; only in the last chapter do readers hear about the role of politics and ideology in the transformations he so vividly describes.<sup>5</sup> Humans are a fairly undifferentiated group of actors in McNeill’s account. Ross, on the other hand, is interested in human power and in showing which human communities paid for and which benefited from this unprecedented exploitation of the natural world. He therefore offers historical explanations not just for global disparities in wealth but for global disparities in ecological footprints. (And – as he notes – the distribution of such disparities is now shifting as elites in the Global South attain the kind of living standards common in the Global North.) This leads Ross to modern imperialism, a subject addressed only sparingly by McNeill.

But what, precisely, is the relationship between ecological imperialism and political imperialism? Ross takes the periodization established by historians of colonial Africa and applies it to tropical environmental history. African historians generally see the years between the Scramble for Africa and about 1920 as ones in which colonial rule was driven by military engagements and policies shaped on the fly by

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<sup>3</sup> Walter Rodney, *How Europe Underdeveloped Africa* (Bogle-L’Ouverture 1972); Kenneth Pomeranz, *The Great Divergence: China, Europe and the Making of the Modern World* (Princeton 2000).

<sup>4</sup> Ross, 2.

<sup>5</sup> J. R. McNeill, *Something New Under the Sun: An Environmental History of the Twentieth-Century World* (W.W. Norton 2000).



the imperative of local circumstances. Human populations and living standards plummeted around the continent in the chaos of conquest. After 1920, colonial rule became more bureaucratized and routinized: military conflict declined, although it never disappeared; policies of taxation and labor control became more standardized; and population growth resumed. In the years after World War 2, colonial powers became more ambitious, seeking to transform the populations and economies of the territories they ruled. This so-called “second colonial occupation,” while aimed at economic development and raising living standards, also brought a level of colonial intrusion hitherto unknown, as the state involved itself in every aspect of people’s lives. Ross persuasively applies this chronology to the environment, arguing that initial decades of unregulated extraction resulted in significant ecological damage. This was followed by a “more deliberate, scientifically oriented mode of environmental governance” as colonial rule was consolidated in the inter-war years.<sup>6</sup> This governance enabled not just a transfer of resources from the periphery to the metropole but also scientific research that resulted in policies aimed at conservation and sustainability (although these often were misguided). In the years after World War 2, the colonizers’ ambitions expanded as they sought to raise the “carrying capacity” of their territories and to launch large-scale agricultural projects – most of which were utter failures.

Can the tropical environmental transformations of the twentieth century all be laid at the feet of empire? I suspect that historians of twentieth-century Latin America may find much in this book that is familiar. Many – all? - of the processes Ross describes extended beyond the geographical boundaries of modern empires. Ross argues that metropolitan appetites “generated enormous demands on natural resources in the rest of the world.”<sup>7</sup> The “rest” in this case includes places that were not formal colonies by the twentieth century. Take the relationship of the United States with the tropical world. Liberia was formally independent but informally a colony of the Firestone Rubber Company. The United States also did not formally colonize (most of) Latin America, yet American fruit companies transformed Central America’s environment as well as its politics. Saudi Arabia was not part of an American empire, but the United States managed to secure preferential access to its oil. How is the remaking of these environments in service to Western prosperity different from events on the rubber plantations of Java, the cocoa plantations of West Africa, or the oil fields of British-controlled Iran?

Shawn Miller’s environmental history of Latin America also describes the transfer of natural resources to wealthier societies outside an imperial context – in this case, *after* independence in the early nineteenth century. “Almost a century before there were banana republics, there were copper republics, cattle republics, and coffee republics.” The list of commodities is even similar to those highlighted by Ross: “Northern industrialists demanded Latin America’s natural resources – cotton, tin,

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<sup>6</sup> Ross, 419.

<sup>7</sup> Ross, 3.

rubber, copper, and leather.”<sup>8</sup> Like Ross, Miller tells a story of deforestation, soil erosion, and resource substitution – for example, the guano exports that let European and North American farmers escape local soil fertility constraints. And when Miller describes the fiery onset of Mexico’s oil boom, the story of environmental devastation reads a lot like Ross’s discussion of early oil production in Southeast Asia.<sup>9</sup> Are the changes Ross identifies part of a broader story of the emergence of an industrialized Global North and a non-industrialized Global South? Did the New Imperialism take advantage of this relationship and develop it further, rather than creating it?

Most environmental histories of the twentieth century – including those of Ross, McNeill, and Miller – have a strong thread of declensionism running through them. One can hardly blame the authors, given the material they have to work with. In his chapter on colonial forests and forestry, Ross addresses the tendency of colonial outsiders to assume that “the relationship between past and present conditions was ... one of inexorable decline.”<sup>10</sup> But he acknowledges that his own book can be read in much the same way, stating in his conclusion, “On a global scale, the net flow of resources from the colonies to the metropolises degraded tropical ecosystems, diverted wealth from subject peoples, and skewed their economies for decades to come.”<sup>11</sup> Ross qualifies this by noting that people had been reshaping these environments long before the imperialists arrived. He also – correctly – argues that environmental change was “propelled by interests and agendas besides those of the colonizers themselves” – highlighting the role of local elites who seized the opportunities offered by colonizers. In this, too, Ross reflects a deep understanding of where African historiography has gone in the past two decades.

So is there another way to read this history? As an environmental historian, I want to believe the answer is yes, because a field with a single narrative is an intellectually limiting one. As an African historian, I want to believe the answer is yes, because the field has traditionally prioritized recovering the experiences, perspectives, and actions of the colonized. But beyond the actions of some elites, it is harder for Ross to incorporate these actors into his narrative. The story he tells of tropical environmental degradation at the hands of colonizers and local elites is generally correct as a unifying theme at the global level. But how does scale define the kinds of stories historians can tell?

Taking just one example from Ross’s rich mosaic and turning our lens toward the micropolitics of resource exploitation reveals a slightly more complicated story – one that defies generalization but introduces forms of agency that become invisible at larger scales. The example is the copper-producing region of the (current)

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<sup>8</sup> Shawn William Miller, *An Environmental History of Latin America* (Cambridge University Press 2007), 106.

<sup>9</sup> Miller, 131, 154, 156-7.

<sup>10</sup> Ross, 300.

<sup>11</sup> Ross, 415.

southeastern Democratic Republic of Congo and northeastern Zambia. As Ross notes in Chapter 5, this area experienced rapid urbanization in the decades between 1920 and 1960. One of the environmental consequences of the copper boom and its subsequent urbanization - one that took place out of sight of the cities themselves - played out in the fisheries of the Luapula River and its associated lake. Indeed, Ross argues that the environmental impact of the copper boom may have been larger within aquatic ecosystems than terrestrial ones, because the labor force of the copper towns relied so heavily on fish for protein.

For Ross, this is a story of intensifying resource extraction thanks to the efforts of outsiders. Expatriate traders bought local fishers' catch and sold it to the cities. Improvements in transportation and storage infrastructure allowed for increasing volumes of trade and greater incentives to catch more fish. Then technology was harnessed to increase supplies further: large boats and gill nets and bottom gill nets, a kind of spiraling effect whereby declining catches led to more aggressive technologies which depleted fish stocks still further. In 1949 salmon populations collapsed, never to recover.<sup>12</sup>

In Ross's book, the story of the Luapula's fisheries ends there. It serves to demonstrate how rural resources fueled growth and prosperity in the "peripheral center" of Katanga and the Copperbelt - a reflection in miniature of the way that the Copperbelt itself was fueling the prosperity of Belgium and Britain. Ross draws this story from David Gordon's *Nachituti's Gift* which is, in my opinion, one of the best African environmental histories ever written.<sup>13</sup> But *Nachituti's Gift* does not end in 1949. Gordon argues that the need of the Luapula salmon to undertake arduous spawning runs meant that it was uniquely susceptible to intensified fishing and to the efforts of well-capitalized expatriate fishers. The next fish to be exploited, a type of bream, was more resilient. Wealthy patrons funded capital-intensive exploitation of adult bream in the open lake, as they had done for salmon. But the bream bred in shallow lagoons that were controlled by local communities, ensuring high juvenile survival rates and thus a steady replenishment of fish stocks in the lake. In the 1980s, when economic opportunities in other sectors dried up, more fishers entered the lake; as catches per fisher fell, experts and fishers alike concluded - incorrectly - that overall fish stocks were falling and implemented a closed season that had little relationship to the life cycle of bream. These regulations were bypassed by those wealthy enough to bribe the necessary people. The story of bream is not one of ecological collapse but one that demonstrates the limited capacity of state institutions to regulate the and the misapplication of science in conservation. It also supports another of Ross's contentions: that local elites were co-producers of environmental change in imperial settings.

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<sup>12</sup> Ross, 191-92.

<sup>13</sup> David Gordon, *Nachituti's Gift: Economy, Society and Environment in Central Africa* (University of Wisconsin Press 2005).

But there was third fish that fed the copper towns, one whose story was different from that of both salmon and bream: the Chisense, a humble, sardine-like fish. As Gordon notes, “Small fish and the fishers and traders who exploit them may become the beneficiaries of the tragedy of intensive exploitation of larger fish. So the tragedy of the commons is in the eye of the beholder; there are winners and losers.”<sup>14</sup> Chisense, Gordon notes, were virtually impervious to overfishing. And those who benefited from them were small and medium scale producers and traders, not the wealthy elites who dominated open water fisheries. The fish were not high status and there were no formal or informal tenure systems regulating this fishery. As a result, women and marginalized people found openings to enter a lucrative market. The Chisense fishery, Gordon tells us, “supports tens of thousands of Zambian and Congolese traders and fishers whose existence would otherwise be far more precarious.”<sup>15</sup>

For Gordon, the story of the fisheries that supply the copper towns is simultaneously one of ecological decline and elite appropriation *and* one of ecological resilience and opportunity for marginalized populations. We need histories like Gordon’s to remind us of how the particularities of local environments and social configurations matter to history. But we also need histories like Ross’s, to remind us of the larger frameworks in which these local particularities exist. Among Ross’s many accomplishments is his ability to show how Europe’s – and North America’s – transformation of the tropical world ultimately transformed the entire world, creating the single ecological world system we share today. But most readers who pick up a book like Ross’s likely will not discover a book like Gordon’s. As I finished reading *Ecology and Power in the Age of Empire*, I found myself wondering if it is possible to place both kinds of histories into a single work. Must one narrative thread – declension and displacement, or resilience and opportunity – always dominate when we expand the scale to encompass much of the world?

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<sup>14</sup> Gordon, 173.

<sup>15</sup> Gordon, 198.

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**Comments by Richard Tucker, University of Michigan**

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**C**orey Ross's book has appeared at a strategic time. The Weatherhead Center for International Affairs at Harvard, in collaboration with European and global scholars, has launched an ambitious project, the Commodity Frontiers Initiative. Its website asserts:

"The transformation of the global countryside has been essential to the emergence and consolidation of capitalism over the past 500 years. Providing raw materials and foodstuffs to satisfy the voracious appetite of city dwellers and machines, the flatlands, valleys, forests, marine spaces and mountains of the world have been transformed at astonishing speed.

Commodity frontiers have relentlessly pushed into rural areas, providing ever more labor, food, energy and raw materials to global markets. Driving economic growth, these frontiers have rapidly shifted from one location to the next, adapting to the social structures, politics, natural endowments and technical developments of particular places. In the process, sugar, cotton, soy, gold and oil frontiers, among others, have recast vast areas of the world's natural environment. Appropriating ecological resources and often dispossessing rural people, their revolutionary social impact has had drastic implications for the ways billions of people have lived."

<<https://wigh.wcfia.harvard.edu/commodity-frontiers-initiative>>

*Ecology and Power in the Age of Empire* could be a centerpiece for that project. As Ross writes, from the eighteenth century until World War I and beyond, the British Empire was the central driving force of the Western world's transformative impact on the biosphere. In graduate school I imbibed the Drain Theory, the centerpiece of India's nationalist critique of the British Raj, which asserted with much validity that the Empire functioned to drain the economic wealth of India, for the metropole's advantage. It didn't yet occur to me that India's financial wealth was also its environmental endowment, and that the economics of empire were fundamentally environmental history.

In the evolving debate over the economics of the British Empire, the understanding of its key dimensions has been enriched by that realization: the exploitation of natural resources, shaped by the human and economic / institutional resources necessary to exploit them, is also, and fundamentally, environmental history. Corey Ross's ambitious work is an important contribution to that expansion of perspective, integrating the fields of Western imperialism, globalization, "Third World" development, and global environmental decline. As I read it, I became

curious to know more about his experience with more traditional British Empire scholars in Great Britain and elsewhere. What do they make of his approach?

*Ecology and Power* also constitutes an environmental clarification of the commodity chain literature. In the first section, "A World of Goods," separate chapters discuss cotton, cocoa, rubber, tin, copper, and petroleum. Each narrative is alert to air, water and soil pollution impacts, especially in regions around and downstream of mining sites.

This list of commodities that were central to the imperial economies could be considerably longer, of course, but each of his six has deserved the integrated treatment that this book provides. It presents a model for other major commodities that still lack global as distinct from regional surveys, including tropical fruit, tobacco, and drugs (opium, coca and others). If Ross had chosen to include one more, what might it have been, and what additional perspectives would it add to our understanding of the environmental dimensions of commodity extraction?

In many ways the history of Western imperialism is the history of the industrial era. Petroleum, Ross's final commodity chapter, is well chosen, since oil is fundamental to the ecological history of the fossil fuel era. He provides a succinct model that invites a similarly incisive chronicle of coal. Coal has been equally central to the environmental history of the fossil fuel era, and thus an important contribution to our understanding of climate change. The story of rubber is also familiar, but Ross's narrative adds integrative clarity and force to previous studies, as a critical element of the history of industrialization.

Global surveys of the environmental history of mining have been relatively neglected. Ross's chapters on tin and copper are thus particularly helpful. These chapters invite similar overviews of other strategic minerals, with attention to the military interests that have helped to drive their extraction and their environmental consequences. (He briefly but pointedly notes aluminum, phosphates, platinum and uranium as well, with their often appalling environmental wreckage.) This is essential for our exploration of the (generally ignored) links between environmental and military history. Could he extract the military material into an essay to present to military historians?

The cotton chapter fills a significant gap in the literature. The environmental history of wool could be another scholar's complement to the cotton chapter, taking the environmental history of fibers into the material cultures of cooler climates. Of the six commodities that Ross has chosen, the cocoa story is probably the least well known. His discussion rightly adds cacao production to coffee and tea, the better known mildly addictive drinks on the global market. Cultivation of all three drinks has had profound impacts on their source areas in tropical and subtropical ecosystems, with consequent depletion of biodiversity in the forests that they have replaced. Here too the history of markets (driven in these cases by the biology of



mild addiction) is an important part of the story. The hard drugs should be added to this category.

All of these natural commodities were critically important for the conduct of two global wars in the twentieth century, even cocoa as a stimulant for both warriors and the civilian labor force. As Ross suggests, these cataclysms not only devoured resources but also set in place expanded systems of extraction and management that enabled continuing acceleration and militarization during the Cold War era. Several scholars are now exploring those dimensions of the last half of the twentieth century.

Each chapter in this section could justifiably expand to book-length. What dimension(s) of the story would be most enriched by that expansion? Possibly the roles of labor and gender? Recent studies of the social history of plantation labor, in Latin America and elsewhere, are closely related to the process of environmental change. John Soluri's *Banana Cultures* illustrates that convergence. That book also probes the rise of the advertising industry, a key element of the evolution of market demand for the products of empire, and thus the environmental history of capitalism and consumerism.

As if all this weren't enough to cover in a single book, Ross's analysis of commodity extraction is balanced by section two, "Conservation, Improvement and Environmental Management in the Colonies," which demonstrates that forest and wildlife conservation and agricultural management were shaped as strategies of imperial control, "intervention from above and afar." (p. 391) Throughout this section Ross traces the rise of what was confidently called "scientific" systems of resource management, in research centers, government agencies and corporate hierarchies. These systems were generally maintained by the scientific, political and industrial elites after the colonies gained independence. The wide-ranging debate between production forestry and ecosystem management (to maintain species diversity) is rooted in these issues of "what *kind* of science is most needed?"

As this discussion suggests, the transition to independence in Asia and Africa deserves more attention for better understanding of the environmental impacts of post-colonial regimes. Nationalist writers on the consolidation of newly independent regimes are often reluctant to acknowledge the continuities with pre-independence resource extraction and management. Additional studies of that transition, as environmental history, are likely to shed considerable light on that question.

Section three, "Acceleration, Decline, and Aftermath," presents lucid overviews of the environmental heart of globalization, as the metropolitan economies maintained control of natural wealth into the political ecologies of our times, by dominating investment capital, extractive technologies, distribution systems, and consumer markets. Yet the ecological transformations have varied widely from one location to another. In an important clarification Ross emphasizes the "multidimensionality" of

the global system, stressing that the counterpoint between global structures and local settings was shaped by the infinite variety of ecological settings. Studies of globalization often fail to recognize this adequately.

Ross's approach to his material suggests one more dimension, the cultural matrix of ecological globalization. As we work to articulate the range of meanings for "culture" and environment, I'm prompted to ask Corey how he might enrich that discussion, in the context of imperialism, capitalism and globalization.

In sum, where might the discussion go next? The Commodity Frontiers Initiative adds a statement that also applies to Ross's work: "Providing a long historical perspective on problems that are often assumed to be modern, the CFI will endeavor to recast our thinking about issues of sustainability, resilience, and crisis and thus contribute to the politics of our own times." This book is written with such force and clarity that it will appeal to both academics and professionals in economic development and environmental agencies. No other study of the global acceleration of environmental domestication and ecological decline does it more convincingly.

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**Response by Corey Ross, University of Birmingham**

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Writing a book generates a variety of sensations: relief when the proofs are finally done, excitement when the finished product arrives, nervousness when the first reviews appear. But perhaps the most enjoyable part is seeing colleagues engage with it and finding out what questions emerge. I would like to thank Chris Jones for organizing this roundtable, and Iftekhar Iqbal, Meredith McKittrick and Richard Tucker for their thoughtful comments. Although it is not possible to do justice to their observations in a short response, I will try to pick up the main points they raise in a way that I hope is useful to readers.

First, a bit of background. When I initially began thinking about this book around ten years ago, only a few basic outlines were clear in my head. I wanted to write a synoptic account of industrial Europe's ecological footprint during the heyday of empire; I wanted it to transcend imperial boundaries (especially those of the British Empire); I wanted it to consider the roles of colonizers and colonized; and I did not want it to be too textbook-like. It did not take long to realize that these aspirations were not so easy to combine, and that doing so would require some focal points. I was quickly drawn towards commodities as a vehicle for pursuing the kind of history I wanted to write. Approaching commodification as a socio-ecological process was appealing not just for the global connections it facilitated but also for the way in which it fit into the current historiographic landscape. Back then much of the work on empire and environment revolved around the efforts of scientists and administrators to 'conserve' or 'develop' particular resources—wildlife, forests, soils—and how they clashed with local practices and rights of access. At the same time, much of the literature on commodities—despite a steady trickle of admirable exceptions—did not take ecology seriously.<sup>16</sup> The more I read these exceptions, the more I liked them; and the fact that they focused mainly on other periods or 'imperialisms' convinced me that Europe's modern empire needed similar treatment. Increasingly, however, I found it impossible to overlook how much effort colonial states put into resource conservation and how important forest departments, game reserves and agricultural development schemes were for altering land use throughout the tropics. Disregarding them by focusing exclusively on commodity production would not only limit the book's engagement with much of the environmental history literature on late imperialism, it would also miss an opportunity to examine conservation and extraction together and thereby (hopefully) illuminate aspects of both. So I added the three chapters that now comprise section two. The book expanded yet again when the publisher and referee

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<sup>16</sup> To pick out some of the exceptions: R. Tucker, *Insatiable Appetite: The United States and the Ecological Degradation of the Tropical World* (Berkeley: University of California Press, 2000); W. Dean, *Brazil and the Struggle for Rubber: A Study in Environmental History* (Cambridge: Cambridge University Press, 1987); J. Soluri, *Banana Cultures: Agriculture, Consumption and Environmental Change in Honduras and the United States* (Austin: University of Texas Press, 2005); S. W. Mintz, *Sweetness and Power: The Place of Sugar in Modern History* (New York: Penguin, 1986); J. W. Moore, 'Sugar and the Expansion of the Early Modern World-Economy: Commodity Frontiers, Ecological Transformation, and Industrialization', *Review* vol. 23 (2000), 409-33.

reports convinced me (not that I needed much convincing) that a final chapter on post-colonial legacies would be a bonus. This is why the book is shaped as it is, and why the reviewers have had to read as much as they did.

Here the project collided with Newton's third law of publishing, whereby any addition had to produce an equal and opposite subtraction. Writing history on this scale was new to me, and so were the choices that come with it (on which more below). I am acutely aware, as Richard charitably remarks, that each commodity chapter could be expanded to book length. I would add that the same applies to all the other chapters. There are numerous dimensions of the story that could be enriched by such expansion. Certainly much more could be said about the complex interactions of ethnicity, gender, labor, and environmental change in most if not all of them. These connections are as complex as they are fascinating, and they do feature in the chapters on cotton, tin, and copper. Exploring them more thoroughly through a selection of local case studies would be—for me, at least—a top priority of any fleshing-out exercise. A second fruitful direction of expansion would be to examine the ways in which changes in the colonial world affected environments and economies within Europe, an issue to which I could give only scant attention (mainly in the chapter on oil). A third would be to expand and deepen the regional coverage within the colonial world in order to make more spatial connections and draw more comparisons about the ways in which different socio-ecological settings shaped the outcomes of particular management and exploitation initiatives. I never quite shook the feeling that South Africa and the Maghreb got less attention than they deserved. The colonies in the Americas are also less prominent than they could have been, though this was partly deliberate in view of the fine studies on the environmental impacts of US power in the American tropics. The sheer importance of India and its rich historiography could justifiably have demanded even more space than it already gets, a point reflected in Iftekhhar's comments about the role of caste and religious community.

Yet Richard also asks an intriguing counter-question: if another commodity could be added, what would it be and how could it enhance the story? My decisions about which commodities to focus on were based on three criteria. Collectively I wanted them to cover a spectrum of different ecological settings (drylands, forest, etc.), to include vegetal and mineral commodities, and to highlight different themes (e.g. the links between labor and ecological change, race and technology, small-scale versus large-scale production). This was not just a matter of diversity for diversity's sake, but was intended to advance two interrelated points. First, the material characteristics of particular deposits or cultivars or ecological settings were important factors in defining the socio-economic outcomes of particular extractive industries, alongside more familiar issues such as land tenure arrangements and market structures. And second, while biophysical environments set the outer parameters within which extractive activities could take place, within these limits a variety of outcomes was still possible. Ideas, values and orientations were crucial factors in the equation. To combine these points into a rather sweeping statement: nature powerfully shaped how commodification unfolded, but there was nothing

'natural' or inevitable about the process and its effects. One of my main aims was thus to demonstrate how culture and ideas intermingle with material and economic factors to shape commodity production and its effects. One might liken it to adding 'lateral' connections to the mainly 'longitudinal' material relationships that the concept of commodity chains emphasizes. More work along these lines would certainly enhance the discussion about the manifold factors that shape the way in which nature has been converted into fungible goods.

To return to the question about which commodity might be added, two of the earliest casualties of Newton's law were coffee and palm oil. This was partly because their environmental histories exhibit some basic parallels with cocoa and rubber (the plantation/smallholder dynamic, the importance of the 'forest rent', the role of science, the problems of disease), and partly because people were already doing some excellent work on them (Stuart McCook, Jonathan Robins). Neither of these goods would top the additions list now, for the same reasons. Instead, the frontrunner for me would be probably the diminutive pearl, whose career as an article of worldwide trade could enrich our understanding of the commodification of nature in several ways: by making new links between Pacific and South Asian histories, by examining the peculiar dynamics of luxury markets and extreme scarcity value, and by following the extractive frontier into aquatic ecosystems that still too few of us environmental historians have entered (disclosure: I am currently wetting my feet with a new project on international development and tropical waters).

There are many other practical and conceptual choices lurking in the pages of the book, and the reviews tease them out in the form of three broad issues for discussion: the role of empire in global ecological transformation, the perennial problem of declensionism, and how it overlaps with questions of scale and agency.

To start with the first one, Meredith poses a question that I asked myself many times while writing the book: 'can the tropical environmental transformations of the twentieth century all be laid at the feet of empire?' One way to read this question is to ask how we apportion responsibility between imperial powers and subject peoples for the changes that took place, to which I will return below when discussing the problem of agency. Another is to ask about the extent to which the socio-ecological impacts of European empire—that is, the assertion of sovereign power over lands and peoples in the tropics—were really all that different from those caused by other forms of foreign domination in areas that were not within the formal boundaries of overseas colonies.

In many ways, of course, neither the mechanisms nor impacts were very different at all. There are numerous parallels to draw with the ways in which the tag-team of US corporate and state power enabled firms to control territory and gain preferential access to resources outside the framework of formal colonization. The similarities are evident across much of Latin America, where long-established post-colonial states turned their territories into vast storehouses of raw materials for export to

the industrialized world. From a global perspective we can discern a kind of standard recipe for remaking tropical environments in the service of Northern prosperity: controlling territory, rendering it legible and fungible, attracting investment to 'develop' its resources, and mobilizing labor to extract them. The fundamentals differed little between independent, nominally independent, and formal colonial states, and nor did the resulting problems of deforestation, soil loss, pollution, and displacement. I clearly recognize these commonalities and say as much in the book. In fact, colonial boosters throughout Europe regularly complained that Latin American countries received far more investment and exported far more goods in return than their 'own' colonies. Many independent states extracted and exported their natural wealth much like colonies, just as some formal colonies were effectively run by domineering corporations with state-like power.

For all these reasons the environmental history of Europe's formal empire is best viewed as a variation on a common theme. Historians have defined 'imperialism' in many ways, but if we strip it down to its essentials<sup>17</sup> there seems no reason not to apply it to the overseas activities of the US or Japan during the period in question. It was never my intention to claim a unique status for formal empire, but rather to examine its effects across large parts of the world and evaluate how they fitted into global patterns of environmental change. To respond directly to one of Meredith's questions, I very much regard the changes charted in the book as part of the broader emergence—or rather widening—of a global North-South divide. Insofar as it makes sense to posit any causal connections here, Europe's 'new imperialism' was simultaneously both an effect and a cause of the ongoing divergence. Following Pomeranz (whose work was indeed a major inspiration) and drawing on the likes of Osterhammel, Jones, Parthasarathi and others, we can see how the gap that had opened during the early phases of industrialization ultimately made the rapid global expansion of European power in the later 19<sup>th</sup> century possible.<sup>18</sup> In many respects it furnished both the means (resource subsidies and wealth) and ends (industrial demand for raw materials) for imperial enlargement. By the 1870s at the latest, all industrializing countries began to increase their overseas footprint in some form or other, and as this process gathered momentum over the following decades it widened existing global disparities yet further.

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<sup>17</sup> In the book the term is used to denote 'a form of domination imposed by one society over another in which the two are incorporated in a differentiated hierarchy that works to the advantage of the dominant party', p. 2.

<sup>18</sup> K. Pomeranz, *The Great Divergence: China, Europe, and the Making of the Modern World Economy* (Princeton: Princeton University Press, 2000); E. Jones, *The European Miracle: Environments, Economies and Geopolitics in the History of Europe and Asia*, 3<sup>rd</sup> ed. (Cambridge: Cambridge University Press, 2003); J. Osterhammel, *Die Verwandlung der Welt. Eine Geschichte des 19. Jahrhunderts* (Munich: Beck, 2009); P. Parthasarathi, *Why Europe Grew Rich and Asia Did Not: Global Economic Divergence, 1600–1850* (Cambridge: Cambridge University Press, 2011).



In many respects the surge of European colonial power across Southeast Asia and sub-Saharan Africa merely represented the most dramatic example of this broader process. But for all the commonalities on display, the institutions and practices of formal rule nonetheless produced some peculiar dynamics. Such differences were, on the whole, less visible in the sphere of commodity production than in the realms of conservation and development. To take one example, formal European sovereignty made a difference for the supposedly 'pristine' wildernesses and exotic fauna that became an object of (neo-)European fascination in the late nineteenth and twentieth centuries. When states had a direct stake in governing overseas territories, it enabled conservationists to pursue their goals—for good or ill—through appeals to national pride or imperial stewardship. Governments that claimed to be guardians of their tropical dependencies could be pressured by lobbies and public campaigns to fulfill their responsibilities as 'civilizing' powers, as happened very effectively in Britain and Germany. Likewise, efforts to 'improve' tropical land-use were also shaped by the discourse of colonial stewardship and the dynamics of metropolitan public opinion, for instance in the case of Dutch 'Ethical Policy' privileging a more small-scale, farmer-centred approach to agricultural development. Such peculiarities are important in their own right and the list could go on. They do not, however, alter the overall picture of socio-ecological commonality with other 'imperialisms' in other parts of the tropics. If anything, the similarities grew over time with the accelerating trans-national and trans-imperial circulation of ideas, techniques and expert knowledge, which is itself a major theme of the book.

This leads us to another common denominator, namely the overriding sense that too much has been lost, destroyed, and squandered in the race to tap the wealth of tropical nature. Like many others who have tried to write environmental history on a large spatial scale, I have struggled to avoid the thread of declensionism to which the reviewers allude. This is not for lack of attention to it. At various points in the book I emphasize that the story should not be understood as one of inexorable decline, that not all the changes it traces can be regarded as degradation, and that not all the impacts of imperial power were exploitative or destructive. During the course of my research, I was continually struck by the diversity of views among colonial administrators and scientists. From early on there were wide-ranging critiques of the effects of various policies and commercial ventures, often accompanied by well-meaning solutions that were intended to mitigate or reverse the damage. Sometimes they failed to shift the direction of policy or were too late to be more than remedial. Sometimes the results were highly significant, as in the case of forestry and wildlife protection. All too often such conservation initiatives paid insufficient attention to the people who relied for their livelihoods on the resources they sought to protect. But this was not always the case, and I agree with those (e.g. Helen Tilley, Suzanne Moon) who insist that some interventions were, for their time, remarkably sensitive to the social and ecological complexities that were involved. Partly for this reason, local hostility towards conservation and development measures was common but by no means universal. To pick up one of Iftekhhar's

points, the book shows that they generated a mixture of cooperation, consent, and opposition.

In much the same spirit, the book also shows—perhaps not adequately—how environmental transformations entailed certain trade-offs. The spread of cocoa was unquestionably bad news for the forests on the planting frontier, but it provided significant opportunities for indigenous smallholders to improve their livelihoods without jeopardizing subsistence regimes. The vast substitution of rainforest for *Hevea* trees was likewise devastating for flora and fauna, but it brought tangible benefits for smallholders across Southeast Asia and the resulting stands were, if managed well, more ecologically sustainable than almost any of the alternatives. In both cases, intensive and extensive forms of cultivation had their respective advantages, the former by reducing the need for more forest clearance, and the latter by reducing the input of fertilizers and other agrochemicals. Prioritizing one or the other is based on a value judgement, and might vary from one context to the next.

Weaving such countervailing threads into a narrative adds a richness that compensates for any neatness that is sacrificed. More of this could only have improved the book, as is illustrated by Meredith's point about the multifaceted history of the Luapula fisheries after the time period on which my analysis of copper mining focused (a point which I wholeheartedly accept, along with her glowing assessment of David Gordon's superb book). This story contains a whole set of interrelated trade-offs: what was bad for the Luapula salmon and for those who overfished it eventually brought opportunities for small fishers who focused on the more sustainably exploitable *Chisense*. It is the kind of insight that a richly detailed study of a particular place is best positioned to achieve.

The follow-on question is a big one: how might we better interweave these narrative threads—degradation, resilience and opportunity—while writing history on a large scale? A pragmatic but rather superficial answer might point to useful narrative tactics such as regularly zooming in and out in order to illustrate the connections between the micro-and macro-levels. But the more difficult challenge lies in interweaving these themes at the macro-level itself as we grapple with the pattern that emerges from surveying a broad swath of history. I don't have much of an answer, but for what it's worth, I am reminded of another roundtable that appeared several years ago in which Paul Sutter expressed concern about the effacement of metanarratives of environmental decline since the 'hybrid turn' in environmental history. While clearly recognizing the problems of these older metanarratives and wanting to retain all of the benefits that recent scholarship had brought, he candidly admitted that he 'cannot shake narratives of environmental decline'.<sup>19</sup> Human impacts on the rest of the biophysical world over the last two centuries have been

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<sup>19</sup> *Journal of American History* vol. 100, no. 1 (June 2013), quote from Sutter, 'Nature is History', p. 147.

too dramatic and downright unnerving to sit comfortably with the notion that they can be adequately grasped as the latest historical nature/culture hybridizations. That we live in hybrid landscapes and fish in hybrid waters is not in doubt. Nor is the idea that these places have long been shaped by human activities, or that we only understand them through particular cultural lenses and within certain knowledge frameworks. Rather, the question is whether the unprecedented scale and pace of recent human-induced environmental change warrants more normative distinction than that.

My sense is that it does, which is why I hazard the argument that the overall environmental balance sheet of imperialism has been decidedly negative. I still have a few qualms about doing so, mainly due to the images of a natural equilibrium or moral baseline that such language can conjure—whether in the guise of a mythic wilderness or some kind of peaceable kingdom in which humans lived in harmony with nature. But these misgivings are outweighed by a desire to recognize the sheer scope of change that has occurred and the losses that it has entailed. Ecosystems and humans' place within them are, to be sure, constantly in flux. New constellations continually emerge, creating new openings into which organisms can move, adapt, and sometimes flourish. One might say that the *Chisense* fishers in Zambia and the DRC found a promising new socio-ecological niche after the collapse of the Luapula salmon, and that the benefits they gained and the relative stability of the new arrangement made the earlier ecosystem changes worthwhile. But scaling up this kind of argument to the macro-scale is difficult inasmuch as the costs of such socio-ecological transformations more often seemed to outweigh the benefits—all the more so when any postponed costs are factored in.

It is, I would suggest, this sense of a generalized disproportion that lends a touch of declensionism to most large-scale environmental histories of the recent past. And I would add that it is perhaps especially hard to avoid when appraising environmental changes in the colonial and post-colonial world given that a huge portion of the benefits flowed elsewhere while the costs accumulated *in situ*.<sup>20</sup> When attempting to survey the history and legacies of modern imperialism, I found that there was just too much forest loss, habitat loss, soil loss, pollution, inequality, and exploitation to avoid a conclusion of overall environmental decline, despite the countervailing tendencies and more or less regardless of the baseline one might plausibly apply. The question then became how to incorporate the counter-currents. A good illustration of the approach I took are the activities of Ashanti cocoa farmers or Sumatran rubber smallholders, which were socio-ecologically complex stories of opportunity and resilience—but ones that were situated *within* an overall trend of degradation to which they themselves contributed (albeit often less harmfully than others growing the same crops). The result is a kind of narrative of concentric circles, stories within an overarching story. It may still seem too declensionist for

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<sup>20</sup> Just an aside: I perhaps misunderstand Iftekhar's suggestion about section three that the structure of global political economy is not part of the discussion beyond the Green Revolution, since this very dynamic of displaced costs and benefits is the focus of most of the chapter on the post-colonial period.

some tastes, and it could doubtless be executed better than I did, but at a general level it fits the evidence of the imperial past reasonably well.

These problems of scale are closely connected to our understandings and depictions of agency, on which the reviews make some interesting points. Iftekhhar is certainly correct in stating that a 'hybridization of agency in ecological changes in the tropical world' is a central aim of the book. In fact it was a central aim in two respects. One ambition, as mentioned above, was to emphasize how biophysical environments and indeed the nature of specific things interacted with human activities in the history of modern empire. Another was to incorporate various forms of indigenous agency into the environmental history of empire without downplaying the hierarchies and power differentials that shaped them. It is gratifying to hear that Iftekhhar finds 'colonised people are relatively more empowered than have been imagined so far in the existing literature'. Equally, it is intriguing to note that he thinks their level of responsibility is somewhat 'stretched'.

The role and nature of indigenous agency was one of the trickier issues to deal with in the project, and I did not expect everyone to think I got it right. In fact, when the initial book proposal was farmed out for review, one referee thought that I risked downplaying the destructive effects of European actions, whereas another cautioned me against assigning so much responsibility to Europeans for the environmental ills of the tropical world. I figured I could scarcely cross such an interpretive minefield without at least some charring, though I strove to avoid either of these two outcomes. As befits a book entitled 'ecology and power', the overall idea it seeks to convey is that the disproportionate power of European colonizers meant that they were disproportionately responsible for the changes that occurred (not least because they enjoyed most of the rewards), but that indigenous/non-European people from various levels of society often took advantage of the opportunities presented by colonial trade and infrastructure to transform their surroundings for their own benefit (again, especially the more powerful among them). The metaphor I chose was that of a forcible franchise, an amalgam of coercion and self-interest that seemed a handy way of encapsulating the relationship without losing sight of the structural inequalities involved. It does not serve—or at least was never intended to serve—as a 'eulogy for impotence' of imperial authority, but rather as a means of demonstrating how the colonizers' quite formidable power across much of the globe was nonetheless contingent upon the incorporation of people and things that had their own forms of agency.

Smallholders (broadly defined) play a key role in this story since they accounted for so much of the forest clearance and export cropping that occurred. On certain planting frontiers they were the main drivers of the process, e.g. the aforementioned West African cocoa belt and the rubber boom across parts of Sumatra and Borneo. It is worth noting in this connection the rather different relationship between smallholders and cotton, which demanded more time and attention, was often less profitable, and which was more difficult to combine with existing subsistence regimes. These interconnections between nature, culture, and economy were

complex and varied significantly from one place to another and from one cultivar to another, so I completely agree with Iftekhar's point that examining small-scale producers' agency involves a series of questions about timing, land tenure arrangements, markets and credit, transport infrastructure, and much else besides. Most of these factors are addressed at least briefly in the chapters on individual crop commodities, as well as in the sections on small-scale mineral extraction. Likewise, the particularities of local ecosystems, socio-cultural arrangements, and the importance of subaltern knowledge feature prominently in the discussion of agricultural management. But there are admittedly other factors shaping indigenous agency that get little—perhaps too little—attention in the book, among them the role of caste and religion and various distinctions within the category of 'smallholder'. In some ways this brings us back to the problem of scale. If one were to follow Richard's suggestion and write book-length studies of any of these commodities, s/he could no doubt provide a more nuanced account of the inner dynamics of local societies, the micro-politics of resource use, and how they interacted with the particularities of local environments. By the same token, anyone who might focus more closely on the history of nature preservation, forestry, or agricultural improvement schemes could produce a more fine-grained examination of the effects on the ground, as well as the motivations, intentions, life-worlds, and internal contestations among the colonizers themselves. Both would be highly worthwhile ventures, and I would be eager to read them. But both would also entail sacrifices with regard to the thematic scope, comparative opportunities, and amalgamation of different literatures that *Ecology and Power* has sought to achieve.

In closing his review, Richard asks where the discussion might go next. I have no better answer than anyone else, but like Meredith I would love to see work that more effectively combines different scales, perspectives, and multiple narrative strands in a way that can illuminate the larger frameworks that have structured global political ecology without forfeiting a sense of how they interact with local ecological idiosyncrasies and the contingencies of human action. It is a tall order, but conversations like this one can only help. So let me finish by thanking Chris and the reviewers once again for making this conversation happen.

### About the Contributors

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**Corey Ross** is Professor of Modern History at the University of Birmingham, UK. Before *Ecology and Power in the Age of Empire*, he published widely on modern European history, and is currently working on a project examining international efforts to 'develop' fisheries in the global South and the transformation of aquatic environments and littoral communities in the twentieth century.

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