



Universiteit  
Leiden  
The Netherlands

## **From Colonialism to Collaboration: Disputing Biofuels in the Age of the Anthropocene.**

Canfield, M.C.

### **Citation**

Canfield, M. C. (2020). From Colonialism to Collaboration: Disputing Biofuels in the Age of the Anthropocene. *Max Planck Institute For Social Anthropology Working Papers*. Retrieved from <https://hdl.handle.net/1887/138427>

Version: Not Applicable (or Unknown)

License:

Downloaded from: <https://hdl.handle.net/1887/138427>

**Note:** To cite this publication please use the final published version (if applicable).

MAX PLANCK INSTITUTE FOR  
SOCIAL ANTHROPOLOGY  
WORKING PAPERS



MAX-PLANCK-GESELLSCHAFT

WORKING PAPER No. 201

MATTHEW CANFIELD

FROM COLONIALISM  
TO COLLABORATION:  
DISPUTING BIOFUELS  
IN THE AGE OF THE  
ANTHROPOCENE

Halle/Saale 2020  
ISSN 1615-4568

Max Planck Institute for Social Anthropology, PO Box 110351,  
06017 Halle/Saale, Phone: +49 (0)345 2927-0, Fax: +49 (0)345 2927-402,  
<http://www.eth.mpg.de>, e-mail: [workingpaper@eth.mpg.de](mailto:workingpaper@eth.mpg.de)

# **From Colonialism to Collaboration: disputing biofuels in the age of the Anthropocene<sup>1</sup>**

*Matthew Canfield<sup>2</sup>*

## **Abstract**

Biofuels are a major source of conflict in debates over global food and energy security. In the face of climate change, biofuels are being promoted as a new form of “green energy.” However, transnational agrarian movements argue that biofuels exacerbate global food insecurity by lowering global food stocks and increasing global food prices. To manage this conflict, new arenas of multi-stakeholder, collaborative governance have proliferated on multiple political scales. This paper examines the emergence of collaborative governance within the historical context of shifting global arrangements of food and energy production, or what I term “energopolitical regimes.” Drawing on ethnographic fieldwork in the UN Committee on World Food Security, I argue that collaboration is emerging as a contested regulatory ideology in the age of the Anthropocene. As actors engage in collaboration in the face of shifting environmental-human relations, they face new political and ethical dilemmas.

---

<sup>1</sup> Funding for this research was generously provided by a National Science Foundation, Law and Social Sciences Program, Doctoral Dissertation Research Improvement Grant (SES #1323743). I was grateful to receive a visiting post-doctoral fellowship in the Department ‘Law & Anthropology’ at the Max Planck Institute for Social Anthropology, during which this paper was written. I would like to thank Marie-Claire Foblets, Horatia Muir Watt, Bertram Turner, Stephen Reyna, Julia Dehm, James J. A. Blair, Leon Castellanos-Jankiewicz, Marta Morvillo, Amy Cohen, Priscilla Claeys, and my writing group at the 2018 Institute for Global Law & Policy Scholars Workshop for comments on various drafts of this paper.

<sup>2</sup> Matthew Canfield, Assistant Professor of Law and Society & Law and Development, Van Vollenhoven Institute, Leiden Law School, Leiden University, email: m.c.canfield@law.leidenuniv.nl

## Introduction

In 2013, I sat in a modern conference room in the UN Committee on World Food Security (CFS) as states, multi-national corporations, representatives of transnational social movements, and international institutions attempted to collaboratively develop policy recommendations on biofuels and food security. As crops whose starches, sugars, oils, and cellulose can be harvested to produce carbon energy, biofuels have been pursued with increasing zeal by powerful countries seeking to wean themselves from oil dependence and create new sources of “energy security” in the face of climate change. Yet since the 2007–2008 global food price crisis – which pushed an estimated 150 million people into hunger and caused food riots in over thirty countries (Vidal 2010) – biofuels have been intensely controversial. The replacement of food crops with fuel crops has reduced global food stocks, thereby driving up global food prices (Headey and Fan 2008). The conflict over biofuels has thus pitted two essential and mutually dependent goods – food and fuel – directly against one another. To manage this conflict, the CFS and other bodies around the world have sought to engage concerned “stakeholders” in processes of collaboration.

The CFS is just one example of an international arena that has adopted “collaborative” or “multi-stakeholder” arrangements in order to mediate the conflict between food and fuel. Over the past two decades, a variety of standard-setting arenas such as the Roundtable on Sustainable Biomaterials, the Roundtable on Sustainable Palm Oil, and other similar institutions have begun to deploy participatory decision-making processes to develop standards and policy recommendations for biofuel production. Such arenas of collaborative governance – which are becoming increasingly common as a way to manage a wide range of conflicts over food and the environment – are constructed on the theory that collaboration can produce “win-win” solutions by engaging state and non-state stakeholders to develop norms in participatory, consensus-based processes (Ansell and Gash 2008). This rapid expansion of collaborative arenas to manage the conflict between food and fuel has led some scholars to describe collaboration as a new form of transnational environmental authority (Gunningham 2009).

Scholars and activists, however, have begun to express serious doubts about the promise of this emerging form of transnational regulation. While multi-stakeholder forms of regulation were once hailed as a significant achievement that provided civil society members a chance to sit at the table (Hematti 2002; Backstränd 2006), a growing number of critics have begun to argue that collaborative governance depoliticizes conflict (McKeon 2017; Gleckman 2018). Such scholarship reflects a growing preoccupation with the rise of “post-politics,” a neoliberal and technocratic process of regulation that employs coercive consensus to entrench the status quo (Rancière 1999; Swyngedouw 2010; Wilson and Swyngedouw 2015). In the biofuel negotiations I witnessed, the potential for powerful actors to leverage their position was certainly clear. Over the course of the four days of negotiations I witnessed, powerful stakeholders consistently overrode the concerns of civil society and subaltern states. Biofuel-producing states from the Global North would “veto” the suggestions of these less powerful stakeholders or sometimes simply say “no.” During the negotiation, civil society participants struggled with how to respond. Should they return to negotiations and do “damage control,” one representative from an international NGO asked, or should they walk out of the negotiations altogether? With this, however, came another strategic question: if they walked out, would they compromise their ability to participate, which they had long struggled to achieve?

Today, a growing number of activists confront such dilemmas. On the one hand, social movements and civil society have long demanded to be included in transnational regulatory processes. On the other hand, powerful activists often mobilize the discourse of inclusivity to abdicate responsibility to the private sector. As arenas of multi-stakeholder and collaborative governance proliferate, social movements and activists must therefore navigate a new political and ethical terrain over the meaning and practice of collaboration. Collaboration is thus not simply a technology of neoliberal “post-politics”; I argue that it is a contested regulatory ideology that is endemic to the Anthropocene.

The Anthropocene is the name scientists have given to our contemporary geological epoch to recognize that humans have now become the primary agents of planetary change (Crutzen 2006; Hamilton et al. 2015).<sup>3</sup> Its designation has prompted social scientists to re-examine the hitherto underestimated significance of ecological extraction in animating global relations of power (Chakrabarty 2009; Moore 2015; Patel and Moore 2017). Anthropologists, in particular, have contributed to this reconceptualization of power by focusing on how struggles over *energy* have been constitutive of political, economic, and legal systems (Whittington 2016; Moore 2017; Szeman and Boyer 2017; Howe 2019; Folch 2019). Building on this literature, this paper situates the emergence of collaborative governance within historical struggles over the control of food and fuel, or what I term *energopolitical regimes*. Understood through this framework, collaborative governance is constituted by shifting calculative logics of energy, the environment, and power that have historically shaped various regulatory orders. By developing this argument through historical analysis and ethnographic fieldwork, I join a growing cadre of anthropologists who have sought to illuminate the complex political terrain constituted by contemporary modes of collaboration (Riles 2015; Tsing 2015).

Part I begins by charting the pivotal role of food and fuel in producing shifting normative arrangements in a succession of energopolitical regimes. These transnational regulatory regimes are characterized by different material arrangements of power – human and industrial energy drawn from different sources of carbon and calories.<sup>4</sup> I briefly describe two previous energopolitical regimes – dominated by the normative orders of colonialism and coordination – before describing the emergence of collaboration as a mode of governance. I argue that contemporary demands for food and fuel over the same finite areas of arable land have produced novel regulatory arrangements of collaboration. Part II of the essay turns to the ideological production of collaboration through the institutional reform of the UN Committee on World Food Security. I show how different actors invested the idea of consensus-based collaboration with different meanings in the aftermath of the 2007–2008 global food crisis. Finally, Part III examines the practice of collaboration through the dispute over biofuels in the CFS. I draw on ethnographic analysis that I conducted during the negotiations of the 2013 Policy Recommendations on Biofuels and Food Security in the CFS. I show how collaborative processes served the interests of powerful actors by coercively suppressing conflict. However, by analyzing how activists and social movements engaged in this process as well as their continuing engagement with the CFS since

---

<sup>3</sup> While the term has generated much controversy (see Moore 2017), its reminder of the existential threats to collective existence has nonetheless raised the political and legal stakes upon which conflicts over resources are premised.

<sup>4</sup> My use of the term “regime” draws on the conventional definition offered by Krasner (1982: 185) as “principles, norms, rules, and decision-making procedures around which actor expectations converge on a given issue-area” as well as Philip McMichael and Harriet Friedmann’s concept of “food regimes,” which I describe below.

2013, I suggest that collaboration remains a critical terrain of conflict over the normative organization of power in the age of the Anthropocene.

### **Energopolitics and Global Food Governance**

Anthropologists have long recognized the entanglements of energy and politics. Cultural materialists like Leslie White (1943) tied cultural evolution and development directly to the ability to harness energy. He offered important insights into the role of energy extraction in humans' efforts to dominate the environment and accumulate power (Adams 1978) and was among the first to recognize the fossil-fuel underpinnings of contemporary capitalism (Boyer 2014). Although the 1970s oil crisis inspired a renewed wave of research into the relationship between energy and society (Nader and Beckerman 1978), subsequently the interest in energy largely waned. Today, however, climate change and the dawning of the "Anthropocene" has led to growing engagement with energy not just as a driver of geopolitical relations, but as a more fundamental locus through which power is constituted and exercised. By attending to the relations constituted through socio-technical processes of energy extraction and distribution, anthropologists and other social scientists have begun to analyze political, economic, and legal relations through the lens of "energopower."

Dominic Boyer defines "energopower" as "a genealogy of modern power that rethinks political power through the twin analytics of electricity and fuel" (Boyer 2014: 325). In developing this concept, he builds on Foucault's (2003) conception of "biopower" – which describes how specific problematizations of collective life and forms of knowledge are deployed to authorize relations of power (Rabinow and Rose 2006) – by emphasizing the ecological conditions through which humans convert energy into power. Contemporary studies of energy energopower and "energopolitics" reveal the central role of fossil-fuel extraction, infrastructures, and consumption in constructing authority and political power (Szeman 2014). One key site of energopower that anthropologists have not yet explored is the relationship between fuel and another key site of energy accumulation: food and agriculture.

Food is central to energopower for two reasons. First, food and fuel are co-dependent as sites of human energy and labor power. Historian J.R. McNeill (2000) points out that the first form of energopower was based on the exploitation of animals and human slaves for the production of agricultural surpluses. During what he terms the "somatic energy regime," agriculture and animal domestication served as the first sources of energy extraction and power. Control over agricultural surpluses created the material foundation for different relationships of power and politics. Since people were the most efficient metabolizers of energy in this regime (more than horses or oxen), slavery became "the most efficient means by which the ambitious and powerful could become richer and more powerful. It was the answer to energy shortage" (McNeill 2000: 66). Modern industrial capitalism, however, has been made possible by alternative sources of fuel and new technologies which have transformed labor conditions and the attendant distributions of power. While agriculture is often forgotten in contemporary arrangements of capitalism, Jason Moore reminds us that capitalist development has been part of a "triple helix of environment-making" (Moore 2017: 4), an intertwining process of extraction, accumulation, and social reproduction dependent on what he calls the "four cheaps" – cheap food, cheap energy, cheap labor, and cheap raw materials.

Second, because food is a basic need, it serves as a fulcrum for political conflict and transformation. E.P. Thompson (1971) famously pointed out that lack of food has consistently engendered revolutions and rebellions. Indeed, food shortages and famines have impelled collective mobilization to challenge authority in nation-states from the French Revolution to the Arab Spring (Scott 1977; Sternberg 2012). Today, movements contesting food insecurity are transnational in scope. Activists are mobilizing to challenge the liberalization of global food and agriculture as well as fossil-fuel-dependent agricultural practices (Edelman 1999; Borras et al. 2008). Since control over agriculture and adequate food has repeatedly mobilized collective action, it becomes a powerful lens through which to understand energopolitical shifts.

Analyzing the changing global organization of food and fuel reveals the role of these goods in producing different normative orders. Critical agrarian scholars Philip McMichael and Harriet Friedmann describe how the political economy of global agriculture has produced different “food regimes,” which they define as “rule-governed structure[s] of production and consumption of food on a world scale” (Friedmann 1993: 30; see also Friedmann and McMichael 1989; Friedmann 2005; McMichael 2009a). Food regimes have become a key conceptual framework for analyzing the exercise of global power and the institutionalization of global food governance. However, though scholars have recently sought to integrate the study of fuel into studies of food regimes (McMichael 2010), I suggest that *energy* rather than food provides a more complete perspective on the global projects of rule of which food has been a part. As Tim Di Muzio notes, “changing agrarian social relations are not sufficient to explain the rise and greater universalization of capitalism as a mode of differential power, though they surely remain a part of the story” (2015: 62). Thus, rather than use the framework of “food regimes,” I develop the concept of *energopolitical regimes*.<sup>5</sup> I use this approach to describe the normative orders and ideologies of governance that have been developed to manage the contradictions of energy extraction and distribution, with particular attention to the food-fuel nexus on a world scale. Below, I identify three *energopolitical regimes* that have produced shifting regulatory ideologies. Although I present these regimes chronologically, they are best understood as overlapping and interpenetrating. By presenting them chronologically, I wish to show how particular ideologies are tied to different forms of energy extraction and different struggles to manage the tension between food and fuel.

### *The Coal Energopolitical Regime: colonialism*

The coal energopolitical regime, which lasted from the mid-nineteenth century until just after World War I, was dominated by the United Kingdom. While coal had been in use in Britain since the sixteenth century to heat homes, it was not until after the commercialization of the steam engine that coal could be harnessed as a source of political economic power. As the English economist William Stanley Jevons proclaimed in 1866, coal “is the material energy of the country – the universal aid – the factor in everything we do” (quoted in Malm 2016: 47). By the mid-nineteenth century, Britain was the world’s largest coal producer and coal accounted for 90% of all of the country’s energy consumption (Wrigley 2010: 38).

The coal energopolitical regime was governed through colonialism. This meant different things for Europe and for its colonies: while the colonies were subject to colonial coercion, relations

---

<sup>5</sup> Douglas Rogers first developed the concept of “energopolitical regimes” in analyzing the role of the oil company Lukoil-Perm and the way that it bolstered state authority in the Perm Region of the Russian Urals. He argues that energopolitical regimes refer to “a field of power in which state agencies are important but not the sole actors” (2014: 18). I use the term differently, as described above.

between European countries were guided by the maxims of “free trade.” Although the ideals of free trade and imperialism are often framed in contradistinction to one another, scholars have noted that in practice colonial expansion continued unabated even when governments claimed to embrace liberal policy. As Robinson and Gallagher note in their analysis of “free trade imperialism,” “[t]he usual summing up of the policy of the free trade empire as ‘trade not rule’ should read ‘trade with informal control if possible; trade with rule when necessary’ ” (Robinson and Gallagher 1953: 13). Debates over free trade and imperialism reflected shifting class alliances both nationally and cross-nationally (Fakhri 2014). Four features define the coal energopolitical regime: (1) the capitalization of state power through coal-backed currency, namely the pound sterling; (2) steam-powered industrialization and urbanization; (3) the intensification of colonization to supply food and raw materials as well as create markets for manufactured goods; (4) the proliferation of free trade ideology to enable growing working-class consumption and to justify subaltern dispossession.

First, coal and steam power enabled the rise of British financial dominance. As Tim Di Muzio (2015) notes, coal enabled the capitalization of the English state far more than agriculture could. The “capitalization of the English state,” through the Bank of England, was a critical development in the rise of English capitalism because it was “the first major *private* and *permanent* capitalization of the state’s organized differential power over the population of England and its colonies” (Di Muzio 2015: 54). The revenue generated from coal exports and steam-powered industrialization, particularly through the expansion of railways, led to the growth of rise of coal-backed sterling as a key global currency.<sup>6</sup>

Second, as has been well documented, coal-powered mechanization was critical for industrialization (Jevons 1866; Wrigley 2010; Freese 2016; Evans and Rydén 2017), urbanization (Law 1967; Williams 1975; Briggs 1993), and attendant shifts in labor organization and class relations (Thompson 1964; Engels 1993 [1845]; Hobsbawm 1996 [1975]). Whereas previously, industry was geographically constrained by watersheds, which provided the main energy source for large-scale production, coal enabled more control over energy, allowing for urban industrialization beyond geographical constraints. As Bonneuil and Fressoz note, coal made it possible to “homogenize space, to ignore location, watercourses, and gradients. It created a much more competitive and fluid labor market as entrepreneurs could relocate their activities according to local wages” (Bonneuil and Fressoz 2016: 203). As part of this industrialization process, the railways contributed to the compression of time and space (Schivelbusch 1986).

Third, coal-powered industrialization led to the intensification of colonial expansion to create new markets for products manufactured in Britain as well as to supply cheap food for the British urban working classes. This aspect of the energopolitical regime is often overlooked. While capital relied on increasing extraction and consumption of hydrocarbons to fuel industrialization, growing urban populations required cheaper sources of chemical energy, i.e., *food*. Mitchell notes “we think of industrialization (and the democracy that followed) as an urban phenomenon based on fossil fuels, but it depended on an agrarian – and colonial – transformation based on organic forms of energy” (Mitchell 2011: 16). Supplying cheap food to urban populations was hampered by two factors: domestic politics that sought to maintain high prices for British-produced grains and, later, stresses on the organic systems of agricultural production. During early industrialization, British

---

<sup>6</sup> Timothy Mitchell (2011: 127–128) suggests that coal also played a more basic material role in British financial power – coal-fired steam power enabled the cost-effective minting of the coinage that enabled Britain to put their currency on a gold standard, which Europe later followed. However, this is also contested by George Selgin (2003).

output expanded, enabling British farmers to feed the increasing urban populations (Wrigley 2010). However, after the Napoleonic Wars, British landowners sought to protect themselves from foreign competition and forced the passage of the Corn Laws. The resulting high grain prices catalyzed the formation of cross-class alliances that supported free-enterprise interests. Both the growing bourgeoisie and the working classes sought access to cheap grains and high-caloric, tropical foods such as sugar, leading to a growing free-trade ideology in the mid-nineteenth century, described below. During the late nineteenth century, Britain faced growing stress on the organic system of production, leading to soil fertility decline. As a result, British grain producers relied on the import of fertilizers in the form of nitrates and phosphates, such as guano (Clark and Foster 2009; Tilzey 2017), and Britain came to rely increasingly on food imports to maintain its food security (Friedmann 2005).

The pressure on agricultural systems and demand for cheap food was ultimately resolved through two means – the turn to “free trade” among countries in the “core” of capitalist development and the intensification of colonialism in the periphery. By the 1840s, free trade interests successfully brought about the repeal of the Corn Laws, leading to a period of laissez-faire trade policy in which Britain imported grain from its colonies and from the United States, well as other European states, through bilateral and eventually multilateral trade agreements. By the 1870s, a world market for wheat was established (Friedmann 1978).

Free trade did not extend to the colonies; rather it served to reinforce colonialism. During this period European states competed to rapidly expand territorially, dividing a quarter of the world’s land among them (Hobsbawm 1989 [1987]: 59). Territorial expansion created markets for European goods, while also serving as a cheap source of raw materials, labor power, and food. In the colonies, extremist ideologies of “free trade” served to justify dispossession of subaltern populations (Orford 2015). Mike Davis describes how colonial administrators refused to provide aid when crop failures hit the Deccan Plateau of India from 1876 to 1878, instead continuing to export large amounts of wheat back to Britain. Analysts estimate that between six and ten million people died as a result of administrator’s commitment to follow a “strict laissez-faire approach to famine” (Davis 2002: 35) It was this approach to free trade in the colonies that coerced the Third World into a London-centered global market. By the end of the nineteenth century, a growing global economy had developed (Hobsbawm 1989 [1987]: 62).

#### *The Oil Energopolitical Regime: coordination*

The second energopolitical regime was premised on oil. By the mid-twentieth century, while coal was still in production and use, oil became increasingly easier to produce and transport. The growing use of oil after the Great War and later World War II enabled the United States’ rise to power. In 1945, the US produced more than two-thirds of the world’s oil, with Latin America and the Caribbean supplying most of the rest. As a result of its military, economic, and political dominance, oil enabled the US to construct a global normative order premised on the regulatory ideology of *coordination*. This ideology was based on four features: (1) the ascendance of the US as the world’s financial hub through the oil-backed dollar; (2) the industrialization of agriculture and attendant oversupply of agricultural commodities in the United States; (3) the development of new theories of economic coordination; and (4) growing competition for both agricultural markets and oil once the US hit peak production in the 1970s.

First, after World War II, Britain and the United States sought to create a new financial system that could limit the ability of private bankers to speculate on currency. Through the Bretton Woods Agreement, participating countries agreed to peg their currencies to the US dollar, in principle because the US fixed the value of the dollar as \$35 per ounce of gold. However, in practice, the value of the dollar was shaped by oil, the largest commodity in the global trade (Mitchell 2011: 111).

Second, as the US came to dominate the global economy through its oil exports, a new regulatory ideology emerged: *coordination*. The emergence of the coordinative ideal was shaped by the food-fuel nexus. On the one hand, oil-dependent industrial agriculture required new forms of regulation to manage the challenge of overproduction. Throughout the early twentieth century, political elites struggled with how best to manage the agricultural economy (Fitzgerald 2010). While during the early part of the century, laissez-faire approaches to the economy reigned, these arrangements caused significant instability for both the farm sector and food prices, leading to debates over how best to manage private markets (Hurt 2003). The United States Department of Agriculture, one of the first modern administrative agencies, became a testing ground for policies of the managerial, administrative state (Carpenter 1998). By the 1930s, challenges in coordinating surpluses and prices led to the passage of the Agricultural Adjustment Act, which was based on the principle of supply management (Winders 2009).

On the other hand, oil shaped the calculative logics of the economy inherent in Keynesian theory. The availability of seemingly endless amounts of oil and food enabled post-war economic theorist John Maynard Keynes to imagine unending growth and construct a modern science of economics based on money and prices (Mitchell 2011). This was a break from earlier forms of political economy, which were deeply concerned with the exhaustion of resources. The economy emerged as a scientific object divorced from nature that “could be conceived as growing indefinitely, outside any natural determinisms and without coming up against physical limits, thanks to the good guardianship of economic experts” (Bonneuil and Fressoz 2016: 213). *Coordination* thus became a regulatory ideology for arranging markets, society, and the environment in both the capitalist and communist world.<sup>7</sup>

Third, as oil-dependent industrial agricultural practices produced an oversupply of agricultural commodities, the coordinative ideal was exported abroad. Agriculture figured centrally in what Wolfgang Friedmann described as the “international law of cooperation” (Friedmann 1964); the UN Food and Agriculture Organization was among the very first international institutions developed after World War II (Borgwardt 2007; Canfield forthcoming). The US encouraged post-war Europe and newly independent states to adopt its model of national agricultural regulation and agricultural industrialization. It used its massive agricultural surpluses to provide food aid and technology transfer to countries pursuing capitalist development. As the European farm sector developed after World War II, the European Community adopted the Common Agriculture Policy in 1962, which replicated mechanisms such as production control, price support, and export subsidies that formed the basis of US agricultural policy.

---

<sup>7</sup> Klein and Orsborn (2009) trace the development of “coordination” as an economic concern starting in the 1880s. Although Keynes did not frame his macroeconomic theories in the language of coordination, more recent Keynesian economists have argued that the challenge of coordination was the central problematic of Keynesian theory and policy (Garretsen 1992). For Keynes, coordination was ultimately about managerial coordination of the market economy; however, the meaning of coordination would change as neoliberal economics emerged as the dominant paradigm in the 1980s.

However, by the 1970s, the destabilization of the US-dominated oil markets and increasing competition for global export markets shifted the coordinative ideal from Keynes's model of state-coordinated capitalism to the neoliberal ideal of market-coordinated political and economic relations. US oil production peaked in the 1970s, making the US reliant on the Middle East for its sources of energy. When the Organization of Petroleum Exporting Countries (OPEC) leveraged its new power to cut production (thereby raising prices) in response to US support for Israel in the Yom Kippur War, the US experienced an energy crisis that would have far-reaching political and economic effects.<sup>8</sup>

Neoliberals used the crisis of oil as evidence for what they argued was the failure of regulation. They argued that the abstract forces of the "market" were better suited to coordinate supply and demand. Mitchell (2010) notes how the development of the field of resource economics, in particular, played an important role in defeating Keynesian economics by developing new market mechanisms, including an oil futures market on the New York Mercantile Exchange and carbon markets that could serve to coordinate the petro-economy.

This shift toward the "market" as the mode of coordination also led the US to shift its strategies for maintaining global agricultural and economic dominance.<sup>9</sup> This shift had important implications for the US's development and agricultural policies. Instead of advocating that developing states replicate the Keynesian model of state regulation through which the US had developed, it adopted a more market-oriented approach to agricultural policy, wherein it sought to manage subsidies not through aid, but through the market. In other words, the food and oil crises of the 1970s played a major role in enabling the rise of neoliberal dominance in the US (Nikiforuk 2012).

#### *The Renewable Energopolitical Regime: collaboration*

Today we are on the precipice of a new energopolitical regime. Global warming, rising sea levels, and mass extinctions in the oceans and on land are creating increasing awareness of the consequences of fossil-fuel use. Climate change and "peak oil" have also raised concerns about our fossil-fuel-dependent global food system. Today, agriculture accounts for nearly 16% of the United States' energy budget, and agriculture, forestry, and other land use contributes just under a quarter of total greenhouse gas emissions (Canning et al. 2010; Smith et al. 2014). In total the IPCC suggests that the global food system contributes 21–37% of greenhouse gas emissions.<sup>10</sup>

Neither the consumption of food nor the emissions produced by industrial agriculture are evenly distributed, however. In 2002, the amount of fossil fuels used in the US for agricultural production, processing, and distribution "exceeded that year's combined energy budgets of all African nations" (Canning et al. 2017: 1). It is also these states that are most affected by food insecurity. The food security of these countries has thus increasingly come into conflict with the "energy security" of the Global North. This has created massive global conflicts over biofuels as well as a new era of

---

<sup>8</sup> Mitchell (2010) and Smith-Nonini (2016) point out that this crisis was in some ways manufactured by US multinationals and banks, who used the crisis to raise capital. Oil companies used this money to seek out new sources of petroleum, while banks used the influx of petrodollars to engage in international debt-based financing of large projects in developing countries.

<sup>9</sup> Sandy Smith-Nonini argues that in the 1970s, "extension of debt became the primary way by which the United States maintained influence in the world, while a new expansionist ideology of leveraged deregulation, privatization, and outsourcing of heavy industry to low-wage countries restored profitability to multinational corporations" (2016: 58). In the 1980s, when US banks recalled loans, the international finance institutions that offered stabilizing loans further limited the ability of developing states to subsidize small-scale producers by demanding structural adjustment that limited domestic agricultural support. As a result, this opened global markets to US commercial grain.

<sup>10</sup> See the Intergovernmental Panel on Climate Change's report on Climate Change and Land (2019): <https://www.ipcc.ch/report/srccl/>

global land grabs across the Global South, which has once again become the target of an increasingly aggressive rush to accumulate land for both food and fuel production (Watts 2006; Carmody 2017).

The limits to growth posed by finite amounts of fossil fuels have transformed the calculative logics by which global power has been normatively ordered. As the assumption that supplies of oil are limitless has been undermined, the “dematerialized” logics by which the economy was imagined as an arena of unending growth are confronting new ecological limits. In response, both states and multi-national corporations are seeking ways to maintain their positions of political and economic dominance. For hegemonic states, this has meant seeking new sources of “energy security,” both through increasingly intensive forms of fossil-fuel extraction in precarious environmental landscapes and through new forms of agriculturally-derived fuels. For eco-entrepreneurs and “green businesses,” this has meant adopting the discourse of sustainability to develop a new vision of “green capitalism” (Sandler 1994; Kenis and Lievens 2016). The “renewable energopolitical regime” thus entails both attempts to find renewable fuels and renew capitalism.<sup>11</sup>

As the “dematerialized” ideology of coordination is increasingly confronted with its own limitations, a new normative order is emerging: *collaboration*. Scholars of public administration have described the shift from hierarchical modes of regulation towards inclusive and collaborative regulatory processes as the shift from *government* to *governance*. This transformation from “command and control” forms of state regulation, or what I have described as the model of coordination under the Keynesian paradigm, has been displaced by a new milieu in which states are situated within networks of competing global actors (Slaughter 2002; Rhodes 2007). As R.A.W. Rhodes explains, “[n]etwork governance evokes a world in which state power is dispersed among a vast array of spatially and functionally distinct networks composed of all kinds of public, voluntary, and private organizations with which the center now interacts” (Rhodes 2012: 2). As the metaphor of the network has displaced the hierarchical model of state-driven coordination, collaboration has emerged as a new normative and regulatory paradigm in which “stakeholders,” situated across nodes of a horizontal spatial imaginary, work together to solve problems. In this context, practices of collaboration have proliferated across different regulatory fields and diverse locations (Margerum and Robinson 2016), giving rise to “collaborative governance” as a new paradigm. Collaborative governance engages participatory processes in which stakeholders produce standards, principles, and other forms of non-binding “soft law” to produce voluntary compliance.<sup>12</sup>

While collaborative governance has emerged across a range of economic sectors and under a variety of different descriptions,<sup>13</sup> it is in the environmental sector that it has proliferated most rapidly. A recent study found that almost three-quarters of multi-stakeholder initiatives were

---

<sup>11</sup> This paper focuses on biofuels, which are blended into petroleum primarily for transportation fuel. Though other non-plant-based renewable energy sources are increasingly being developed, petroleum remains the largest source of energy in the United States, Europe, and Canada. Biofuels have thus been a major source of conflict and regulatory transformation. As other sources of non-plant renewable energy sources are developed that do not compete with food, they may indeed lead to regulatory transformations once again.

<sup>12</sup> Ansell and Gash define collaborative governance broadly as “a governing arrangement where one or more public agencies directly engage non-state stakeholders in a collective decision-making process that is formal, consensus-oriented, and deliberative and that aims to make or implement public policy or manage public programs or assets” (2008: 544).

<sup>13</sup> In response to the global competition in the 1980s and '90s, some political and legal theorists developed ideas for a new form of governance, or “democratic experimentalism” (Dorf and Sabel 1998), suggesting that these new forms of coordination could enable the rise of growth. Others deployed the concept of “network governance” (Jones et al. 1997, Braithwaite 2008) to describe both firms’ strategies for coordinating their affairs and shifting forms of capitalism.

clustered in industries related to agriculture, forestry, fishing, and mining (MSI Integrity 2017). In part, collaborative governance has spread as a new form of environmental governance because of the recognition of the limits of top-down coordination (Gerlak 2012). However, it has also been deployed by transnational environmental and agrarian movements in response to the politicization of food, agriculture, and the environment. Neil Gunningham thus dubs collaboration the “new environmental governance.” As he describes it,

“This emerging approach to environmental regulation assumes that there are more gains to be made through cooperation, dialogue, and utilizing multiple sources of knowledge and abilities than by adversarial and government-dominated modes of regulation. For example, the active participation of local stakeholders in regulatory decision-making and monitoring processes is more likely to be sensitive to the complexities of an environmental problem and its local context than centralized regulatory decision-making.” (Gunningham 2009: 149)

The idea of horizontal networking on which collaborative governance is premised is closely tied to the concept of sustainable development (Bäckstrand 2006). Collaboration thus offers an alluring imaginary of sustainability, cooperation, and human-environmental equanimity.

Collaboration, however, is imagined differently by its various proponents. In their review of new forms of environmental governance, Maria Carmen Lemos and Arun Agarwal illustrate how collaboration encompasses competing and often contradictory goals. On the one hand, the inclusion of businesses is “viewed as enabling greater profitability in the utilization of environmental resources.” On the other hand, community and local voices are seen as enabling “a more equitable allocation of benefits from environmental assets” (2006: 311). These competing values are negotiated through the institutionalization of collaborative processes. Ethnographically attending to the different interests and discourses of actors in the formation of collaborative governance, as well as to the rules and processes of collaboration, reveals how power operates and authority is constituted through this new paradigm. In the next section, therefore, I turn to one site of governance, the UN Committee on World Food Security (CFS).

### **The Development of Collaborative Governance: the case of the Committee on World Food Security**

The CFS offers a useful case to analyze the energopolitical transformation of transnational authority. Founded in 1974 in response to the world food and oil crises, the CFS is an intergovernmental body that reports to the UN General Assembly through the Economic and Social Council (ECOSOC) and the FAO Conference. It was originally envisioned as a multilateral coordinating mechanism for national agricultural policies. However, almost as soon as it was founded, the CFS’s authority began to be undermined. As neoliberalism took hold, the United States and its allies appropriated the moral language of “food security” and re-framed it in terms of market rather than state coordination. Increasingly, therefore, they shifted food and agriculture governance away from the CFS and other multilateral bodies. By the 1980s and ’90s, international finance institutions and trade treaties became the *de facto* sites of global food regulation. In 1995, governments across the world agreed to liberalize global food and agricultural markets through the World Trade Organization’s unprecedented Agreement on Agriculture, sparking the rise of massive transnational agrarian movements (Edelman 1999; Martinez-Torres and Rosset 2010).

In 2007, a global food crisis challenged the neoliberal utopia of unfettered free trade in global food markets. As global institutions tried to respond to the food crisis, multiple organizations – the UN secretariat, the G8, and international finance institutions – began to vie for authority. However, transnational agrarian movements and developing countries objected that these institutions did not include the voices of the vulnerable. In 2008, the CFS therefore began a process of reform as part of its effort to reassert itself as the primary international institution responsible for global food governance.

In the shadow of these global transformations, competing actors – regulatory reformers, social movements, NGOs, states, and multi-national corporations – each sought to influence the structure of the CFS through different visions of participation and “inclusivity.” A brief analysis of the various meanings of inclusivity articulated by different stakeholders during the 2009 reform process illuminates how competing actors sought to institutionalize particular arrangements of collaboration.

First, for regulatory reformers at the FAO, where the CFS is hosted, inclusivity served as a strategic approach to shore up their own professional and institutional authority over food and agricultural policy. An independent evaluation commission noted in 2007 that the “FAO’s role in global governance has declined in comparison with that of others, and risks further decline.”<sup>14</sup> Fear of competition led the FAO to advocate for the CFS to create an inclusive and collaborative structure that would force competing bodies of global governance to become subsidiary to the CFS. The collaborative model was also appealing as it preserved the FAO’s institutional dominance of the policy field even though it lacked the political authority to regulate global food. The inclusive, consensus-based model of collaborative governance therefore enabled the FAO to act as a regulatory arena and thereby bolster its institutional authority.

Second, the transnational food sovereignty network, which included both international NGOs and movements such as the La Via Campesina (the International Peasant Movement), mobilized the crisis to argue that those who were most affected by the global food system must be included in the decision-making processes of this new regulatory body. While the WTO remained unyielding on the matter of civil society participation, the FAO had become increasingly friendly to civil society engagement. Activists therefore leveraged the food crisis as an opportunity to push for regularized participation on an equal footing with states. For civil society activists – although they did not speak with a single voice – inclusion in the CFS was seen as a step toward greater democratization.

Third, states saw the collaborative process as a way to include groups that could potentially expand their power. While developing states welcomed civil society involvement, the United States was worried that the inclusion of activists critical of US policy would threaten its policy interests. Cables from the US Mission in Rome to Washington, DC, now available through WikiLeaks, report that the US delegation consistently argued to “keep governance and CFS bureaucracy ‘light.’” In exchange for agreeing to the reform process, the US demanded the inclusion of transnational corporations who were initially uninvolved in this process.

Finally, once engaged, transnational corporations became enthusiastic about the collaborative model. Indeed, the turn towards stakeholder approaches has been actively encouraged by

---

<sup>14</sup> FAO: The challenge of renewal: an independent external evaluation of the Food and Agriculture Organization (FAO). 2007. <http://www.fao.org/unfao/bodies/IEE-Working-Draft-Report/K0489E.pdf> (accessed 22 February 2020).

companies seeking to stabilize volatile markets and defuse resistance.<sup>15</sup> The expansion of public-private partnerships and other collaborative arrangements has been critical for opening up new business opportunities for the private sector, while also allowing states to abdicate regulatory responsibility to private actors. Between 2011 and 2014, private-sector participation in the CFS more than doubled from just 37 participants to 87. For the private sector, participation and collaboration enables corporations to leverage existing relationships to craft standards that would support their efforts to rationalize new markets and sources of accumulation. In this struggle over the structure of the CFS, stakeholders thus sought to imbue the collaborative symbols of inclusion and participation with different meanings and political visions.

The ultimate structure of the CFS makes it a unique body within the transnational landscape of global governance. The CFS is one of the only bodies of global governance in which representatives of social movements and those most affected by hunger and malnutrition can directly participate in the policy-making process. While membership in the CFS is reserved for states, non-members are organized through two platforms – the Civil Society Mechanism (CSM) and the Private Sector Mechanism (PSM) – which play a key role in negotiating all policy guidelines as well as setting the agenda. For some, the reformed structure of the CFS makes it a model intergovernmental body (McKeon 2015). However, the meaning of the CFS reform remains actively contested both by participants and scholars.

For participants, the language of “inclusivity” remains a tool through which competing actors seek to shape the process of collaboration. For example, in response to activists’ criticism of corporate-driven models of agricultural production, Kip Tom, the current the US ambassador to the Rome-based agencies of the United Nations, recently told the civil society activists that they were not being inclusive. “We need to be inclusive of *all* forms of agriculture,” he told them. Similarly, new organizations and networks of large-scale farmers have recently begun to form in order to challenge the existing inclusivity of the CFS and create greater space for large-scale agricultural producers (Claeys and Duncan 2019; Canfield forthcoming). While all actors agree on the language of inclusivity, they use it to achieve different ends.

Scholars, for their part, debate how best to characterize the CFS. While some scholars follow the practice of many member states in the CFS and refer to the CFS as a “multi-stakeholder” body (Duncan and Claeys 2018), other scholars, like activists, seek to describe the innovative structure of the CFS as a “multi-actor” body “in order to reinforce the accountability of governments as the ultimate decision makers” (McKeon 2015: 107). In 2018, the High Level Panel of Experts (HLPE) of the Committee on World Food Security released a report on “Multi-Stakeholder Partnerships to Finance and Improve Food Security and Nutrition in the Framework of the 2030 Agenda.” In discussions about the HLPE report, civil society activists lobbied vigorously for not considering the CFS a “multi-stakeholder” body in order to retain the emphasis on states as the primary decision-makers. Hence, while civil society continually struggles to recognize differential responsibility and unequal power relations, powerful states often use multi-stakeholderism as a language to flatten asymmetries.

---

<sup>15</sup> The stakeholder approach to governance was in fact pioneered by management scholars. In his book *Strategic Management: A Stakeholder Approach* first published in 1984, Ed Freeman argued that shifting from a shareholder towards a stakeholder model could ultimately deepen managerial control. He argues that in the face of increasing mobilization and resistance to corporate agendas “[t]he only way out is to voluntarily adopt a posture of negotiation with stakeholder groups. Why negotiate voluntarily? Because, there is no other way to keep from having a solution imposed upon the organization from outside. And, to accept such an imposition of a solution to a problem is to give up the managerial role” (Freeman 2010 [1984]: 77).

While debates over the organization and institutionalization of different collaborative arrangements remain a critical concern for scholars and activists of food and agriculture (Andrée et al. 2019), it is ultimately through the practice of collaboration that power is exercised and the meaning of collaboration is forged. In the next section, therefore, I analyze the 2013 negotiations of biofuels to examine how the meaning of collaborative governance is produced. Analyzing disputes ethnographically can offer insight into the implicit rules, norms, and meanings that shape regulatory institutions. As I show, debate over the food-fuel nexus played a critical role in enabling civil society and social movements to participate in the CFS, but also raised critical challenges. For while it creates new opportunities to engage directly in decision-making, it can also obscure inequalities of power between and among stakeholders. While collaboration remains a central way of establishing transnational authority in the contemporary energopolitical regime, its meaning and practice remain contested.

### **Disputing Biofuels**

Each year, the CFS selects topics to collaboratively address through policy-making processes. The 2009 reform document describes one of its key roles of “policy convergence” as “the development of international strategies and voluntary guidelines on food security and nutrition on the basis of best practices, lessons learned from local experience, inputs received from the national and regional levels, and expert advice and opinions from different stakeholders” (CFS 2009: 2). Policy convergence processes vary based on the topic selected.<sup>16</sup> Typically, a “work stream” for each topic begins with a report from the High Level Panel of Experts (HLPE), the CFS’s expert body that commissions evidence-based research to inform the policy convergence process. Following the HLPE report, a task team of the CFS will assemble a “decision box” – a set of policy guidelines that the CFS then negotiates, usually during its annual week-long meetings. When there is a desire for greater global policy convergence, the CFS may choose to develop a more robust set of Voluntary Guidelines. More typically, however, the CFS chooses to develop more modest “Policy Recommendations.”

Biofuels were among the most controversial topics during and after the 2007–2008 global food crisis.<sup>17</sup> Although there is near-universal recognition that biofuels were a key component responsible for the 2007–2008 global food crisis, biofuel-producing countries nevertheless remain committed to biofuels through mandates and subsidies because these fuels offer both the promise of lessening fossil-fuel dependence and the possibility of insulating countries from oil-price volatility. The G20 recognized the role of biofuel mandates in the food crisis, but they nevertheless declined to address this issue (Clapp and Murphy 2013). The Renewable Fuels Association, which

---

<sup>16</sup> The process of agenda-setting is itself conducted through multi-stakeholder processes (for details on this see Duncan 2015).

<sup>17</sup> While biofuels have their roots in the oil shocks of the 1970s, production was vastly increased in the 2000s. In the United States, the Bush administration’s Energy Independence and Security Act of 2007 subsidized biofuels and mandated the integration of 36 billion gallons annually into the commercial transportation fuel supply by 2022. Other countries followed suit, including the European Union, which established a 10% biofuel mix in transport fuels by 2020 (Borras et al. 2010). As a result, biofuel production has quickly taken over large amounts of agricultural land. Abbott, et al. note that “it took 27% of the 2010–11 corn crop to meet the demand for corn to produce ethanol, compared to 10% of the 2005–2006 crop” (2011: iii). The International Energy Agency predicts a 150% increase in biofuels by 2035. However, just a 43% increase would require approximately 13–17 million more hectares of land, displacing other crops used for food (Wise and Cole 2015: 3). In spite of this competition for land, rising oil prices mean that corn- and sugar-based ethanol has become increasingly competitive. If this trend continues, as one would expect given current climate politics, the market for biofuel production could continue to expand rapidly (HLPE 2013: 14).

represents the US ethanol industry, for example describes biofuels as “agents of economic development, environmental improvement and social progress.”<sup>18</sup>

In 2011, the UN Committee on World Food Security recommended a “review of biofuels policies – where applicable and if necessary – according to balanced science-based assessments of the opportunities and challenges that they may represent for food security so that biofuels can be produced where it is socially, economically and environmentally feasible to do so” (HLPE 2013: 21). It asked the HLPE to review “the positive and negative effects of biofuels on food security” (HLPE 2013: 14). The HLPE’s report was clear in its findings. “Everything else being equal, the introduction of a rigid biofuel demand does affect food commodity prices,” it reported (2013: 17). It recommended that “[g]overnments should adopt the principle: biofuels shall not compromise food security” (2013: 17). While the HLPE was clear in its recommendations, biofuel-producing states and the private sector remained intransigent. The negotiations of the Policy Guidelines on Biofuels and Food Security were therefore set for a showdown.

I began my ethnographic fieldwork in the CFS in 2013, the year that the biofuel negotiations were set to take place and have attended the week-long meetings almost every year since. I was aware that civil society activists saw the biofuel negotiations as a key test of the newly reformed CFS. Before the negotiations even began, eighty civil society organizations signed an open letter that began: “The Committee on World Food Security must not allow itself to be captured by biofuels interest groups.”<sup>19</sup> It noted its concern that the initial draft of the CFS policy recommendations did not consider the HLPE’s clear findings, nor some of the broader impacts that remained unaddressed by the HLPE such as the expansion of “land grabs” in search of new alternative fuels sources. For its part, the pro-biofuel lobby sent its own open letter protesting the HLPE’s findings.<sup>20</sup>

In the weekend before the meetings of the CFS, members of the Civil Society Mechanism, or CSM, convened to develop a shared analysis and a set of “redlines” – principles that they agreed would not be negotiable – in preparation for what they anticipated would be a difficult negotiation. Participants were cognizant of the particular policy positions and power dynamics engendered by this issue. As one participant explained to me, the United States considered biofuels a national issue, not one subject to international coordination, and was therefore extremely reluctant to compromise. Participants strategized about how they could engage different countries and regions, since, as one person noted, the EU was much more likely to try to force a compromise than the US. This understanding shaped negotiation tactics. CSM representatives decided that the most important objective was to ensure that the recommendations clearly recognized the harmful effects that biofuel policies can have on food security and that orienting the document first and foremost around the right to food was the highest priority. Their goal was to ensure that biofuels were not framed as an “opportunity” for economic development or energy security, but rather as harmful to global food prices. The CSM was not the only group preparing for negotiations, of course. Representatives of the private sector had their own suggestions. In closed-door meetings with

---

<sup>18</sup> Renewable Fuels Association. Letter to the UN Committee on World Food Security, 30 January 2003. <http://www.ethanolrfa.org/wp-content/uploads/2015/09/RFA-Letter-to-UN-CFS.pdf> (accessed 25 October 2019).

<sup>19</sup> “Open Letter: The Committee on World Food Security must not allow itself to be captured by biofuels interest groups” <https://www.cidse.org/2013/10/08/open-letter-the-committee-on-world-food-security-must-not-allow-itself-to-be-captured-by-biofuels-interest-groups/> (Accessed 6 July 2020).

<sup>20</sup> Global Renewable Fuels Alliance. GRFA Letter to HLPE Steering Committee re. withdrawing Biofuels and Food Security Report, 7 October 2013. <http://globalrfa.org/advocacy/grfa-letter-to-hlpe-steering-committee-re-withdrawing-biofuels-and-food-security-report> (accessed 1 August 2017; website since taken offline).

government officials, they provided a draft of the voluntary guidelines with “tracked changes” of their suggestions.

On Monday, when the CFS began, each regional negotiating block was invited to select three countries to represent them in a negotiation of the text, known as the “Friends of the Chair” session led by a rapporteur selected by the chair of the CFS. Civil society, the private sector, and other UN agencies were also present. With the text of the draft guidelines projected in English onto a large overhead screen, the rapporteur of the Friends of the Chair group began by explaining that the group would move through it paragraph by paragraph until they reached consensus. There were just three days in which to complete negotiations on the pre-prepared text. As negotiations began, conflict arose almost immediately. For twenty minutes, stakeholders debated the adjective that should define the link between energy and food security. “Closely linked”? “Maybe linked”? Should it be “energy security and food security”? “Energy policy”? In these debates, subtle qualifiers made important distinctions, for this small point went to the heart of the relationship between food and fuel. Whereas the US sought to decouple these two issues, civil society representatives strove to ensure that any use of agricultural land for non-food production was clearly linked to food security and questions of distribution.

In the first evening of negotiations, powerful biofuel-producing nations made clear their absolute determination to ensure that their national biofuel industries would not be undermined. Halfway through the first page, negotiations started to break down over a sentence that underscored “that food security and the right to food should be priority concerns in the designs of biofuel policies.” Civil society members wished to include the names of already agreed-upon human rights frameworks and guidelines that would inform this priority, whereas powerful biofuel-producing nations refused to include this language. The response from the Canadian delegate was particularly surprising: “The right to food is not an agreed and established right in the same way as an international declaration,” she bluntly asserted. In an arena so dedicated to food security, the rejection of the right to food signaled the delegate’s clear irritation with the effort by civil society representatives to determine the agricultural policies of a sovereign nation. However, for countries that had spent decades cultivating reliance on their agricultural exports, first through aid and then through the discipline of market-oriented structural adjustment policies, these responses were deeply contradictory. In this standoff, the rapporteur tried to offer compromising, technical language, but to no avail. Frustrated by the obstinacy of the biofuel-producing nations, he eventually declared, “we are stagnant” and called it a night.

At the opening of the second day of negotiations, the rapporteur announced that the group “needs to come to a consensus” and that all stakeholders would need to start by acknowledging that. With this declaration, the approach of the rapporteur became much more active. He made clear his concern that the stakeholders reach consensus and finish the document before the end of the three days, for both he and other CFS leaders see consensus as key to being able to give guidelines and ensure the legitimacy of the CFS. As he became more active, the implicit norms that guided collaboration became increasingly visible.

During that second day, Canada and the United States continued to shoot down suggestions of the civil society organizations, flustering civil society participants. While the activists were somewhat successful in opening the process up to deliberation and raising their concerns, they were losing most if not all of the fights they were putting up. In a civil-society strategy session, activists explained to others that they were facing a set of important strategic questions about their role in

this collaborative arena: Should they legitimize the negotiation by continuing to participate? Was it best to stick it out and try to make small improvements where possible? Would walking out discourage future negotiations on contentious issues? Through these questions, civil society members grappled with the dilemma that their inclusion and participation in the CFS could serve to legitimize the recommendations that might contribute to food *insecurity*. However, they also recognized that their participation was critical for the legitimacy of the reformed CFS – the only institution of governance in which those most affected by food insecurity can participate directly. Two years earlier, civil society activists had chosen to walk out of the negotiation process on “Price Volatility and Food Security,” in large part due to powerful member states failing to acknowledge how they had contributed (through biofuels and other policies) to the food-price crisis. Those who had been involved in the reform warned against continuing to walk out. However, they also recognized the difficulty of the situation.

On the final day of negotiations, any pretense that stakeholders were substantively equal evaporated. The room once again filled up. Countries that had not been participating joined the biofuel negotiations, as did social movement leaders, who up until this point had mostly let international NGOs argue their position in the negotiating process. It seemed as if the room was set for a showdown – that the biofuel-producing nations that had exercised power would perhaps be taken to task for their outright promotion of biofuels. Yet when a delegate from a Middle-Eastern country that had not been able to participate in the earlier negotiation sessions started to challenge the conceit that biofuels were an unqualified good, the rapporteur cut him off.

In the final hours of the negotiations, the rapporteur no longer took the recommendations of civil society that he assumed were not going to be accepted by powerful states, telling them instead to come up with a more “compromising attitude.” But it was not only civil society that the rapporteur sought to discipline. With the United States and Canada refusing to compromise, threatening to “block text,” and sometimes simply saying “no” to the rapporteur’s suggestions, the rapporteur began chastening poor countries that were attempting to become more involved in the negotiations. When one African country sought to exert the same “veto power” that powerful countries of the Global North had been exerting throughout the negotiations, the rapporteur said that he thought that the country “should be convinced” instead of allowing it to veto. Consensus thus became a discourse of pacification, unevenly applied even to states. Through these acts of suppressing conflict, the rapporteur revealed the underlying asymmetrical relations of power that implicitly guided the collaborative practices.

When the final document came to a vote in a plenary session on Friday, a Belgian representative of an international NGO read a statement explaining the many reservations that civil society members had about the final product. He explained that the Friends of the Chair sessions “failed to reflect the views of countries whose right to food is affected by biofuels policies. The text overwhelmingly reflects the opinion of countries defending the interests of their own biofuels industry.” The chair of the CFS responded with apparent shock and confusion. What should he do with this statement, he asked? How could they move forward without consensus?

Technically, according to the formal rules of the CFS, only states need to vote on final standards. However, the chair at the time acted (as do many states) as if every stakeholder were part of the consensus. This is because those committed to the CFS recognize that inclusivity and consensus are considered critical to the CFS’s legitimacy. Civil society representatives also recognize this. By deciding not to walk out of the negotiations, they sought to maintain the institutional legitimacy of

the CFS. Their rejection of the biofuel recommendations thus undermined this conceit, creating a normative breach that the chair sought to repair. Indeed, in this revealing moment, the chair of the CFS struggled with how to maintain the authority of the CFS. Very quickly, a revered civil society leader who had a long history of working in the FAO stepped in. He explained to the chair that it was civil society's right to withdraw from the consensus, but that they would continue to collaborate through the CFS processes. The chair looked relieved and responded that he was happy that civil society was not going to try to "block" the process and allow it to move forward. While, of course, civil society did not have any formal power, this performative interaction served as what Erving Goffman (1955) describes as "facework." The chair at once sought to save the "face" of civil society by recognizing the seriousness of civil society's intervention, while at the same time reaffirming the dominant ideology of inclusivity and collaboration. In the end, however, nowhere in any of the final documents was civil society's objection noted.

In the end, the Policy Recommendations on Biofuels and Food Security offered hardly any substantive "recommendations." Although civil society representatives were successful in making it clear that biofuel policies were linked to food security and food prices, every negative statement was qualified with a statement about a potential positive impact of biofuels. Because the document contained no recommendations about how to address this relationship, civil society members argued that it merely served to promote biofuels and the potential positive impact they could make.

### **Conclusions: the contested logics of collaboration**

Collaboration is a contested practice that is fundamentally reshaping the form, exercise, and operation of power. While many analysts have criticized collaboration as a "post-political" form of governance that deploys the language of consensus and inclusion only to depoliticize conflicts, I have suggested a new framework through which to understand the rise of collaborative governance: energopolitics. Resituating regulatory ideologies around ecological conditions reveals that power is shaped not merely by anthropocentric, political economic considerations, but is conditioned by ecological processes of extraction. An energopolitical lens illuminates how access to and control over energy remains the foundation of modern political power and reveals how the calculative logics developed to mediate the enduring tension between food and fuel have produced different regulatory regimes over time. Building from this analysis, I have argued that the rise of collaborative forms of governance is a product of the contemporary conflict between food and fuel whereby both are competing for the same finite areas of arable land.

In the emerging collaborative energopolitical regime, we are witnessing a transformation in the way authority is constituted – from state-centered forms of coordination to collaborative processes that engage the populations whose land and labor are required to secure energy resources. In this context, collaboration may be used to maintain distributions of power; by framing concerns over food security and energy security as equivalent values, collaborative processes may be deployed to depoliticize the tension between food and fuel. However, collaboration is also a contested ideology that social movements imbue with their own values. Indeed, given my account of the CFS's biofuel recommendations, one might conclude that collaboration may be a technology of suppressing dissent. But even after their disappointment with the final Policy Guidelines on Biofuels and Food Security, civil society activists instead called for *more* multi-stakeholder processes. In their final statement to the CFS plenary in 2013, the Civil Society Mechanism called for "multi-stakeholder

assessments of biofuels policies, investments, and operations [based] on the right to food. They should be carried out ex-ante and ex-post and include direct and indirect impacts in third countries.” For rather than rejecting collaborative processes, civil society has instead sought to expand them. This is because activists in civil society pursue collaborative processes not only to ensure the participation of those most affected by food insecurity, but also to imbue their own visions of ecological collaboration in new arenas of governance.

For the transnational peasant movements that have taken on a leading role in the Civil Society Mechanism of the CFS, collaboration is a part of everyday lived experience. Such collaborations are inherent in their agroecological approaches to food production. In contrast to dominant models of industrial agricultural production which view nature as an adversary, agroecological production is based on practices that collaborate with the natural ecosystem. Such practices reflect the kinds of collaborations that anthropologist Anna Tsing suggests are necessary for living in the precarious landscape of the Anthropocene. Tsing describes the multi-species entanglements of mushroom pickers in the forests of the Pacific Northwest as a form of collaborative survival. However, she argues, collaboration is always a relational process. “Collaboration means working across difference, which leads to contamination,” she writes. “Without collaborations, we all die” (Tsing 2015: 28).

The description of collaboration as contamination is useful for analyzing the kinds of challenges faced by social movements and activists within institutionalized arenas of governance. One of the major frustrations of activists is the way in which powerful actors have mobilized the symbols of collaboration to open greater space not only for those on the frontlines of food insecurity, but also for the multi-national corporations and large-scale producers that advocate for greater trade liberalization and the expansion of transnational food and agricultural markets. In this sense, the discourse of inclusivity is double-edged. While it is mobilized by civil society to democratize decision-making, it is also deployed by powerful actors to evade responsibility and state authority.

Collaboration is thus neither a form of post-politics, nor a new form of global democracy, but a contested political and ethical terrain. In yet another context, Annelise Riles draws on her fieldwork with regulators in Japan’s Central Bank to show how collaboration is an emerging “template for social and political life, as well as market activity” (Riles 2015: 153). In her analysis, collaboration has arisen in response to the failures of market coordination. She suggests that collaboration “becomes its own kind of constitutional moment, a different form of politics – one that is constitutive of a new set of ethical, social, political, and institutional relations” (ibid.: 183).

Ultimately, Timothy Mitchell suggests that “the building of solutions to future energy needs is also the building of new forms of collective life” (Mitchell 2011: 248). By this Mitchell not only means that our ability to survive on this planet depends on finding new forms of energy in an era when climate change poses an existential threat, but also that democratic politics are deeply shaped by different forms of carbon energy extraction and distribution. Today, conflicts over food and fuel thus lie at the center of struggles to define new forms of collective life. As collaborative forms of governance are deployed to manage this tension, collaboration has thus emerged as a constitutive site of struggle in the age of the Anthropocene.

## References

- Abbott, Philip, and Adeline Borot de Battisti. 2011. Recent global food price shocks: causes, consequences and lessons for African governments and donors. *Journal of African Economies* 20 (suppl. 1): i12–i62.
- Adams, Richard Newbold. 1978. Man, energy, and anthropology: I can feel the heat, but where's the light? *American Anthropologist* 80(2): 297–309.
- Andrée, Peter, Jill K. Clark, Charles Z. Levkoe, and Kristen Lowitt. 2019. *Civil society and social movements in food system governance*. New York: Routledge.
- Ansell, Chris, and Alison Gash. 2008. Collaborative governance in theory and practice. *Journal of Public Administration Research and Theory* 18(4): 543–571.
- Bäckstrand, Karin. 2006. Multi-stakeholder partnerships for sustainable development: rethinking legitimacy, accountability and effectiveness. *European Environment* 16(5): 290–306.
- Bonneuil, Christophe, and Jean-Baptiste Fressoz. 2016. *The shock of the Anthropocene: the earth, history and us*. New York: Verso.
- Borgwardt, Elizabeth. 2007. *A new deal for the world: America's vision for human rights*. Cambridge, Mass.: Belknap Press.
- Borras, Saturnino M., Marc Edelman, and Cristóbal Kay. 2008. *Transnational agrarian movements confronting globalization*. Malden, Mass.: Wiley-Blackwell.
- Borras, Saturnino M., Philip McMichael, and Ian Scoones. 2010. The politics of biofuels, land and agrarian change: editors' introduction. *The Journal of Peasant Studies* 37(4): 575–592.
- Boyer, Dominic. 2014. Energopower: an introduction. *Anthropological Quarterly* 87(2): 309–333.
- Braithwaite, John. 2008. *Regulatory capitalism: how it works, ideas for making it work better*. Northampton: MA: Edward Elgar Publishing.
- Briggs, Asa. 1993. *Victorian cities*. Berkeley: University of California Press.
- Canfield, Matthew. Forthcoming. Transnational food law. In: Peer Zumbansen (ed.). *Oxford handbook on transnational law*. Oxford: Oxford University Press.
- Canning, Patrick, Ainsley Charles, Sonya Huang, Karen R. Polenske, and Arnold Waters. 2010. Energy use in the U.S. food system. *Economic Research Report Number 98*. Washington, DC: US Department of Agriculture, Economic Research Service.
- Canning, Patrick, Sarah Rehkamp, Arnold Waters, and Hamideh Etemadnia. 2017. The role of fossil fuels in the US food system and the American diet. *Economic Research Report Number 224*. Washington, DC: US Department of Agriculture, Economic Research Service.
- Carpenter, Daniel P. 1998. The corporate metaphor and executive department centralization in the United States, 1888–1928. *Studies in American Political Development* 12(1): 162–203.
- Carmody, Podraig. 2017. *The new scramble for Africa*. Cambridge, UK: Polity Press.
- Chakrabarty, Dipesh. 2009. The climate of history: four theses. *Critical Inquiry* 35(2): 197–222.

Claeys, Priscilla, and Jessica Duncan. 2019. Do we need to categorize it? Reflections on constituencies and quotas as tools for negotiating difference in the global food sovereignty convergence space. *The Journal of Peasant Studies* 46(7): 1477–1498.

Clapp, Jennifer, and Sophia Murphy. 2013. The G20 and food security: a mismatch in global governance? *Global Policy* 4(2): 129–138.

Clark, Brett, and John Bellamy Foster. 2009. Ecological imperialism and the global metabolic rift: unequal exchange and the guano/nitrates trade. *International Journal of Comparative Sociology* 50(3–4): 311–334.

Committee on World Food Security. 2009. Reform of the Committee on World Food Security: final version. CFS:2009/2 Rev.2. Available online at: <http://www.fao.org/tempref/docrep/fao/meeting/018/k7197e.pdf>. (accessed on 22 February 2020).

Crutzen, Paul J. 2006. The ‘Anthropocene.’ In: Eckart Ehlers and Thomas Krafft (eds.). *Earth system science in the Anthropocene*. Berlin, Heidelberg: Springer, pp. 13–18.

Davis, Mike. 2002. *Late Victorian holocausts: El Nino famines and the making of the Third World*. New York: Verso Books.

Di Muzio, Tim. 2015. *Carbon capitalism: energy, social reproduction and world order*. Lanham, Maryland: Rowman & Littlefield International.

Dorf, Michael C., and Charles F. Sabel. 1998. A constitution of democratic experimentalism. *Columbia Law Review* 98(2): 267–473.

Duncan, Jessica. 2015. *Global food security governance: civil society engagement in the reformed committee on world food security*. New York: Routledge.

Duncan, Jessica, and Priscilla Claeys. 2018. Politicizing food security governance through participation: opportunities and opposition. *Food Security* 10(6): 1411–1424.

Edelman, Marc. 1999. *Peasants against globalization: rural social movements in Costa Rica*. Stanford: Stanford University Press.

Engels, Friedrich. 1993 [1845]. *The condition of the working class in England*. Oxford: Oxford University Press.

Evans, Chris, and Göran Rydén. 2017. *The industrial revolution in iron: the impact of British coal technology in nineteenth-century Europe*. New York: Routledge.

Fakhri, Michael. 2014. *Sugar and the making of international trade law*. Cambridge: Cambridge University Press.

Fitzgerald, Deborah. 2010. *Every farm a factory: the industrial ideal in American agriculture*. New Haven, CT: Yale University Press.

Freeman, R. Edward. 2010 [1984]. *Strategic management: a stakeholder approach*. Cambridge: Cambridge University Press.

Freese, Barbara. 2016. *Coal: a human history*. New York: Basic Books.

Friedmann, Harriet. 1978. World market, state, and family farm: social bases of household production in the era of wage labor. *Comparative Studies in Society and History* 20(4): 545–586.

- Friedmann, Harriet. 1993. The political economy of food: a global crisis. *The New Left Review* 1st ser. (97): 29–57.
- Friedmann, Harriet. 2005. From colonialism to green capitalism: social movements and emergence of food regimes. *Research in Rural Sociology and Development* 11: 227–264.
- Friedmann, Harriet, and Philip McMichael. 1989. Agriculture and the state system: the rise and decline of national agricultures, 1870 to present. *Sociologica Ruralis* 29(2): 93–117.
- Friedmann, Wolfgang. 1964. *The changing structure of international law*. New York: Columbia University Press.
- Folch, Christine. 2019. *Hydropolitics: the Itaipu dam, sovereignty, and the engineering of modern South America*. Princeton, New Jersey: Princeton University Press.
- Foucault, Michel. 2003. *Society must be defended: lectures at the Collège de France, 1975–1976*. New York: Picador.
- Gallagher, John, and Ronald Robinson. 1953. The imperialism of free trade. *The Economic History Review* 6(1): 1–15.
- Garretsen, Harry. 1992. *Keynes, coordination, and beyond: the development of macroeconomic and monetary theory since 1945*. Cheltenham: Edward Elgar.
- Gerlak, Andrea K., Tanya Heikkila, and Mark Lubell. 2012. The promise and performance of collaborative governance. In: Sheldon Kamieniecki and Michael E. Kraft (eds.). *The Oxford handbook of U.S. environmental policy*. Oxford: Oxford University Press, pp. 414–426.
- Gleckman, Harris. 2018. *Multistakeholder governance and democracy: a global challenge*. New York: Routledge.
- Goffman, Erving. 1955. On face-work. *Psychiatry* 18(3): 213–231.
- Gunningham, Neil. 2009. The new collaborative environmental governance: the localization of regulation. *Journal of Law and Society* 36(1): 145–166.
- Hamilton, Clive, François Gemenne, and Christophe Bonneuil. 2015. *The Anthropocene and the global environmental crisis: rethinking modernity in a new epoch*. New York: Routledge.
- Headey, Derek, and Shenggen Fan. 2008. Anatomy of a crisis: the causes and consequences of surging food prices. *Agricultural Economics* 39: 375–391.
- Hemmati, Minu. 2002. *Multi-stakeholder processes for governance and sustainability: beyond deadlock and conflict*. New York: Routledge.
- High Level Panel of Experts on Food Security and Nutrition (HLPE). 2013. *Biofuels and food security 5*. Rome: UN Committee on World Food Security. Available online at: <http://www.fao.org/3/a-i2952e.pdf> (accessed on 22 February 2020)
- Hobsbawm, Eric. 1989 [1987]. *The age of empire: 1875–1914*. Reprint edition. New York: Vintage.
- Hobsbawm, Eric. 1996 [1975]. *The age of capital: 1848–1875*. Reprint edition. New York: Vintage.
- Howe, Cymene. 2019. *Ecologics: wind and power in the Anthropocene*. Durham: Duke University Press.

- Hurt, Douglas R. 2003. *Problems of plenty: the American farmer in the twentieth century*. Chicago: Ivan R. Dee.
- Jevons, William Stanley. 1866. *The coal question: an enquiry concerning the progress of the nation, and the probable exhaustion of our coal-mines*. London: Macmillan.
- Jones, Candace, William S. Hesterly, and Stephen P. Borgatti. 1997. A general theory of network governance: exchange conditions and social mechanisms. *The Academy of Management Review* 22(4): 911–45.
- Kenis, Anneleen, and Matthias Lievens. 2016. Greening the economy or economizing the green project? When environmental concerns are turned into a means to save the market. *Review of Radical Political Economics* 48(2): 217–234.
- Klein, Daniel, and Aaron Orsborn. 2009. Concatenate coordination and mutual coordination. *Journal of Economic Behavior & Organization* 72(1): 176–187.
- Krasner, Stephen D. 1982. Structural causes and regime consequences: regimes as intervening variables. *International Organization* 36(2): 185–205.
- Law, C. M. 1967. The growth of urban population in England and Wales, 1801–1911. *Transactions of the Institute of British Geographers* 41: 125–43.
- Lemos, Maria Carmen, and Arun Agrawal. 2006. Environmental governance. *Annual Review of Environment and Resources* 31(1): 297–325.
- Malm, Andreas. 2016. *Fossil capital: the rise of steam power and the roots of global warming*. New York: Verso.
- Margerum, Richard D., and Cathy J. Robinson. 2016. *The challenges of collaboration in environmental governance: barriers and responses*. Cheltenham: Edward Elgar.
- Martínez-Torres, María Elena, and Peter M. Rosset. 2010. La Vía Campesina: the birth and evolution of a transnational social movement. *Journal of Peasant Studies* 37(1): 149–175.
- McKeon, Nora. 2015. *Food security governance: empowering communities, regulating corporations*. Abingdon, New York: Routledge.
- McKeon, Nora. 2017. Are equity and sustainability a likely outcome when foxes and chickens share the same coop? Critiquing the concept of multistakeholder governance of food security. *Globalizations* 14(3): 379–98.
- McMichael, Philip. 2009a. A food regime genealogy. *The Journal of Peasant Studies* 36(1): 139–169.
- McMichael, Philip. 2009b. A food regime analysis of the ‘world food crisis.’ *Agriculture and Human Values* 26(4): 281–295.
- McMichael, Philip. 2010. Agrofuels in the food regime. *The Journal of Peasant Studies* 37(4): 609–629.
- McNeill, J. R. 2000. *Something new under the sun: an environmental history of the twentieth-century world* (The Global Century Series). New York: W. W. Norton & Company.
- Mitchell, Timothy. 2010. The resources of economics. *Journal of Cultural Economy* 3(2): 189–204.

- Mitchell, Timothy. 2011. *Carbon democracy: political power in the age of oil*. New York: Verso Books.
- Moore, Barrington. 1993. *Social origins of dictatorship and democracy: lord and peasant in the making of the modern world*. Boston: Beacon Press.
- Moore, Jason W. 2015. *Capitalism in the web of life: ecology and the accumulation of capital*. New York: Verso.
- Moore, Jason W. 2017. The Capitalocene, part I: on the nature and origins of our ecological crisis. *The Journal of Peasant Studies* 44(3): 594–630.
- MSI Integrity and Duke Human Rights Center at the Kenan Institute for Ethics. 2017. *The new regulators? Assessing the landscape of multi-stakeholder initiative*. Available online at: <https://msi-database.org/data/The%20New%20Regulators%20-%20MSI%20Database%20Report.pdf> (accessed on 22 February 2020)
- Nader, Laura, and Stephen Beckerman. 1978. Energy as it relates to the quality and style of life. *Annual Review of Energy* 3(1): 1–28.
- Nikiforuk, Andrew. 2012. *The energy of slaves: oil and the new servitude*. Vancouver: Greystone Books.
- Orford, Anne. 2015. Food security, free trade, and the battle for the state. *Journal of International Law and International Relations* 11(2): 1–67.
- Patel, Raj, and Jason W. Moore. 2017. *A history of the world in seven cheap things: a guide to capitalism, nature, and the future of the planet*. Oakland: University of California Press.
- Rabinow, Paul, and Nikolas Rose. 2006. “Biopower Today.” *BioSocieties* 1(2): 195–217.
- Rancière, Jacques. 1999. *Disagreement: politics and philosophy*. Minneapolis: University of Minnesota Press.
- Rhodes, R. A. W. 2007. Understanding governance: ten years on. *Organization Studies* 28(8): 1243–1264.
- Rhodes, R. A. W. 2012. Waves of governance. In: David Levi-Faur (ed.). *The Oxford handbook of governance*. Oxford: Oxford University Press, pp. 33–48.
- Riles, Annelise. 2015. From comparison to collaboration: experiments with a new scholarly and political reform. *Law and Contemporary Problems* 78: 147–183.
- Rogers, Douglas. 2014. Energopolitical Russia: corporation, state, and the rise of social and cultural projects. *Anthropological Quarterly* 87(2): 431–451.
- Sandler, Blair. 1994. Grow or die: Marxist theories of capitalism and the environment. *Rethinking Marxism* 7(2): 38–57.
- Schivelbusch, Wolfgang. 1986. *The railway journey: the industrialization and perception of time and space*. Berkeley: University of California Press.
- Scott, James C. 1977. *The moral economy of the peasant: rebellion and subsistence in Southeast Asia*. New Haven: Yale University Press.
- Selgin, George. 2003. Steam, hot air, and small change: Matthew Boulton and the reform of Britain’s coinage. *The Economic History Review* 56(3): 478–509.

Slaughter, Anne-Marie. 2002. Global government networks, global information agencies, and disaggregated democracy. *Michigan Journal of International Law* 24: 1041–1076.

Smith, Pete, Mercedes Bustamante, Helal Ahammad, Harry Clark, Hongmin Dong, Elnour A Elsiddig, Helmut Haberl et al. 2014. Agriculture, forestry and other land use (AFOLU). In: *Climate change 2014: mitigation of climate change; contribution of Working Group III to the fifth assessment report of the Intergovernmental Panel on Climate Change*. Cambridge: Cambridge University Press, pp. 811–923.

Smith-Nonini, Sandy. 2016. The role of corporate oil and energy debt in creating the neoliberal era. *Economic Anthropology* 3(1): 57–67.

Sternberg, Troy. 2012. Chinese drought, bread and the Arab Spring. *Applied Geography* 34(May): 519–524.

Swyngedouw, Erik. 2010. Apocalypse forever? *Theory, Culture & Society* 27(2–3): 213–232.

Szeman, Imre. 2014. Conclusion: on energopolitics. *Anthropological Quarterly* 87(2): 453–464.

Szeman, Imre, and Dominic Boyer. 2017. *Energy humanities: an anthology*. Baltimore: JHU Press.

Thompson, Edward P. 1964. *The making of the English working class*. New York: Pantheon Books.

Thompson, Edward P. 1971. The moral economy of the English crowd in the eighteenth century. *Past & Present* 50(1): 76–136.

Tilzey, Mark. 2017. *Political ecology, food regimes, and food sovereignty: crisis, resistance, and resilience*. Cham: Springer.

Tsing, Anna Lowenhaupt. 2015. *The mushroom at the end of the world: on the possibility of life in capitalist ruins*. Princeton: Princeton University Press.

Vidal, John. 2010. UN warned of major new food crisis at emergency meeting in Rome. *The Guardian*, 24 September 2010. <https://www.theguardian.com/environment/2010/sep/24/food-crisis-un-emergency-meeting-rome> (accessed on 22 February 2020).

Watts, Michael. 2006. Empire of oil: capitalist dispossession and the scramble for Africa. *Monthly Review* 58(4): 1–17.

White, Leslie A. 1943. Energy and the evolution of culture. *American Anthropologist* 45(3): 335–356.

Whittington, Jerome. 2016. Carbon as a metric of the human. *PoLAR: Political and Legal Anthropology Review* 39(1): 46–63.

Williams, Raymond. 1975. *The country and the city*. Oxford: Oxford University Press.

Wilson, Japhy, and Erik Swyngedouw (eds.). 2015. *The post-political and its discontents: spaces of depoliticization, spectres of radical politics*. Edinburgh: Edinburgh University Press.

Winders, Bill. 2009. The vanishing free market: the formation and spread of the British and US food regimes. *Journal of Agrarian Change* 9(3): 315–344.

Wise, Timothy, and Emily Cole. 2015. Mandating food insecurity: the global impacts of rising biofuel mandates and targets. *GDAE Working Paper No. 15-01*. Medford, Mass.: Global Development and Environment Institute, Tufts University.

Wrigley, E. A. 2010. *Energy and the English industrial revolution*. Cambridge: Cambridge University Press.