

Fueling Culture

101 Words for Energy and Environment

Imre Szeman, Jennifer Wenzel, and Patricia Yaeger

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First edition

for Patsy
for Helen

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HOW TO USE THIS BOOK

Our compendium of keywords is organized alphabetically. In addition to listing the keywords in the Table of Contents, we offer some further aid to navigation with two systems of cross-reference. When one of our contributors uses another *Fueling Culture* keyword in his or her discussion, we indicate the link by formatting the term in SMALL CAPS. Also, at the end of each entry, you will find a “See also” section with a list of keywords that intersect or overlap with it in less obvious ways—sometimes ironically and, in a few cases, humorously. In the e-book version, the keywords are hyperlinked to their destinations for ease of navigation through the book

Both Jennifer Wenzel’s Introduction and Imre Szeman’s Afterword offer maps of the terrain that our contributors stake out in *Fueling Culture*. In so doing, they draw out some conceptual threads that you might use to guide your reading. These include:

- important geographical sites and paradigmatic spaces of energy production, consumption, and conflict;
- the many substances and forces that humans have used to produce energy;
- several technological developments associated with energy and its infrastructure;
- the myriad unwanted side effects and unintended consequences of energy extraction and use;
- several forms of cultural production; and
- a slew of abstract nouns, many with the Latinate suffix *-tion*, which touch upon various affects, social formations, and political predicaments of energy.

This book will offer insight no matter how you use it. Choose your own path. Plug in. Let the sparks fly.

Introduction

Jennifer Wenzel

One of the first acts of armed struggle undertaken by Umkhonto we Sizwe (MK), the military wing of the African National Congress (ANC) that launched on December 16, 1961, was the dynamiting of an electrical pylon in Durban and a power station near Port Elizabeth.¹ Launched with a series of coordinated attacks, the sabotage campaign of 1961–63—whose targets included major infrastructure as well as pass offices and other government buildings—resulted in the arrest of Nelson Mandela and other ANC leaders, who were charged with sabotage and treason and sentenced to life in prison. When the anti-apartheid struggle revved up again in the wake of the 1976 Soweto Uprising, repeated targets of sabotage included electrical pylons, oil refineries, PIPELINES, and fuel depots; coal and petrol rail tankers (as well as the railways and buses more broadly); the electrical grid’s power stations, transformers, and power lines; and even NUCLEAR power plants. When comrades and historians describe these targets as “economic,” they generally intend to distinguish them from government targets—police stations, South African Defence Force installations, and pass offices—or to insist on the movement’s rejection of human

1. December 16 is a date of overdetermined significance in the history of South Africa. It has loomed large in Afrikaner nationalism: celebrated first as Dingane’s Day, and later as the Day of the Vow or Day of the Covenant, it was the date of a major victory of Voortrekkers over Zulu warriors at the Battle of Blood River in 1838. But precisely because of this significance in Afrikaner nationalism, activists have used December 16 to launch resistance to segregation and apartheid, dating back as far as 1910. In post-apartheid South Africa, December 16 is the Day of Reconciliation.

targets and its commitment to avoiding injury and loss of life. But this tactic—described in the 1980s as a campaign to make the black townships, and South Africa more broadly, “ungovernable”—is perhaps better understood as an attack on infrastructure and, more specifically still, as an attack on the infrastructure of energy.

Part of what fueled this tactic was the racialization of access to energy in apartheid South Africa. Most black South Africans lived, perforce and by force, off-grid. Although the legendary jazz culture of Sophiatown in the fabulous 1950s might be described as “electric,” it was, in fact, illuminated mostly by KEROSENE lanterns and candles, as is evident in the shebeen scene of Lionel Rogosin’s film *Come Back, Africa* (1959), where Sophiatown intellectuals Can Themba and Lewis Nkosi debate the virtues and limits of liberalism until Miriam Makeba arrives to light up the room with a song. Rogosin shot *Come Back, Africa* illicitly, and the remarkable footage early in the film, from deep underground in a mine shaft, inadvertently reveals the stark contrast between ELECTRICITY haves and have-nots in apartheid’s energy regime. Within South Africa’s minerals-energy complex (Fine and Rustomjee 1996), the mines and industrial smelters were the beneficiaries of the world’s cheapest electricity (much of it generated with particularly inferior and dirty coal, subsidized by the World Bank), while electrification was either denied to the black masses as they were forcibly moved around the country or, after the mid-1980s, sold to some of them at exorbitant rates (Bond and Ngwane 2010, 204).²

From the slantwise angle of a downed pylon, it is possible to understand the anti-apartheid struggle as a war waged on—and for—ENERGY. Such a counter-history would recognize that, in addition to dignity, equality, democratic citizenship, a redistribution of resources, and the right to live, work, travel, play, love, and marry freely, where or with whom one might choose, the struggle was also for light at the flick of a switch, water at the twist of a tap, and a proper roof over one’s head.³ To live, as Niger Delta poet Ogaga Ifowodo writes memorably from another site of militant struggle over energy and its infrastructure, within petromodernity’s “chain of ease” (Ifowodo 2005, 5). In the early 2000s, Soweto once again became a site of struggle over energy, this time with protests at the ANC government’s failure to deliver to the politically liberated masses the basic services of electricity, water, and shelter. With cheap, subsidized electricity still flowing to the mines, and more than 60 percent of residential customers in Soweto having their service cut off for nonpayment of electric bills at rates several times what the mines paid, the Soweto Electricity Crisis Committee spearheaded a new campaign of defiance—reprising the Defiance Campaign of the 1950s, this time against undemocratic, neoliberal “cost recovery” measures rather than apartheid’s unjust laws (Fiil-Flynn 2001, 17). Nonprofessional electricians began re-

2. In Soweto, for example, widespread electrification came only in the 1980s and was then drawn into boycotts on paying for municipal services (Bond and Ngwane 2010, 199).

3. Among the desiderata outlined in the 1955 Freedom Charter: “Slums shall be demolished, and new suburbs built where all have transport, roads, lighting, playing fields, crèches and social centres.”

attaching dwellings to the grid, thereby restoring service that had been cut off (Bond and Ngwane 2010, 200–1). The national utility Eskom found itself without the infrastructural capacity to meet the energy needs of the new and democratic South Africa, as opposed to the privileged few. As in the 1980s, when comrades burst out of the townships and took the struggle to city streets to make South Africa ungovernable—and to demonstrate that apartheid was untenable, we might even say unsustainable—Eskom’s lack of capacity became apparent to the nation as a whole in early 2008, with unscheduled load shedding (in American parlance, rolling blackouts) darkening entire cities at once. Once again, but in a very different vein, the struggle-era call and response slogan—*Amandla! Awethu! Power! To the People!*—was in the air.

Since the moment in 1911 that Winston Churchill decided that the British navy should run on oil rather than coal, we have become accustomed to thinking of geopolitics as another name for struggles over the control of energy, and particularly oil. But the Durban pylon sabotaged by MK, and the subsequent attacks on, and fight for, the INFRASTRUCTURE of energy in South Africa, make clear the stakes of more local struggles involving varied energy sources. Such struggles are deeply embedded in the texture of everyday life, even the nearly bare lives of millions living in a state of emergency, when something so seemingly neutral and apolitical as an electrical grid was riven by race and disrupted by militant politics. We offer this account of the importance of energy in South Africa, and its legibility in *Come Back, Africa*, in order to set in motion the major terms that animate *Fueling Culture*: energy, culture, history, and politics. The reprise of the “Amandla! Awethu!” slogan in the post-apartheid era is a suggestive example of our aim to develop the critical and imaginative capacity to think, at a range of scales, between the two senses of *power*.

Fueling Culture grew out of an editor’s column in *PMLA*, where Patricia Yaeger invited several scholars of literary and cultural studies to speculate about the significance of energy in their period or field of specialization. Here we continue and expand this inquiry in several ways. We have brought together more than one hundred scholars, practitioners, and activists, from around the world and across the humanities and social science disciplines, who offer brief meditations on keywords related to energy. Our contributors explore the significance of energy across the social, political, and cultural spectrums (considering its role in the world-historical processes of industrialization, decolonization, modernization, globalization, and digitization) and at a variety of scales, from the global to the intimacies of the body, both human and nonhuman. The volume attends to place-specific concerns as well as the more far-flung spatial relations entailed in different forms of energy use, and to the relationships among energy, accumulation, modes of production, and inequality. Our contributors consider how the humanities and social sciences can rethink the relation of energy to specific places (e.g., CANADA, NIGERIA, RUSSIA, TEXAS), to particular historical periods (e.g., early modern, Enlightenment, ANTHROPOCENE), and to disciplinary protocols of interpretation (i.e., how to “read” for energy and how energy makes reading, as part of a broader sociology of culture, possible).

Fueling Culture's compendium of keywords offers something more than a catalog or encyclopedia of existing knowledge. We asked our contributors to be suggestive and exploratory rather than purely informative or summative: to stretch our thinking by telling us what we do not quite know about energy as the source and limit of culture. Mindful of the contemporary predicament that Imre Szeman describes as the impasse of “know[ing] where we stand with respect to energy” and environment but being unable to act (or to take action at a scale and scope adequate to the challenges we face) (Yaeger et al. 2011, 324), *Fueling Culture* aims to chart and venture beyond the LIMITS of current discourse—much of which focuses on the irresolvable contradictions of dependence upon unsustainable energy forms and is often articulated in the key of CATASTROPHE. Resisting the not-so-implicit imperative to find “solutions” in the face of crisis, we intend the form of this volume—brief, risk-taking think pieces aimed to open up further thought—to bring a collective, constellated intelligence to bear on the intersections among energy, environment, political economy, and cultural imagining. Our contributors consider *culture* both in the aesthetic/humanities-based sense of literary, visual, and other forms of poesis, as well as the social science sense of the broader forms of collective human experience. Energy fuels culture in both of these senses of the term.

Taken together, the arguments and methodological experiments in *Fueling Culture* set an agenda for an emergent academic field of energy studies. We aim to spark new insights into the social circulation of energy and the importance of energy for critical investigations and interpretations of history and culture today: thinking about the intersections between ENERGY REGIMES and cultural production allows us to understand both in new ways. “ENERGY SYSTEMS are shot through with largely unexamined cultural values, with ethical and ecological consequences,” Stephanie LeMenager writes in *Living Oil* (2014, 4). We sought out contributors like LeMenager who have begun to examine and articulate these (and other) consequences of energy, but we also challenged interesting thinkers in a range of disciplines to explore what difference energy might make to the kinds of questions they tend to ask. Put to work in this collection are insights from political economy, political ecology, environmental history, literary and cultural studies, media studies, postcolonial theory, globalization studies, and materialisms old and new, including “thing theory” and actor network theory. This constellation of voices—including those of artists and activists whose perspectives range beyond the conventional academic disciplines—constitutes a significant rethinking of what it means to do interdisciplinary intellectual work.

Our guiding assumption has been that a more complete and complex understanding of energy pasts is indispensable in confronting the energy challenges of the present and near FUTURE. While all of our contributors inhabit the petromodern present, *Fueling Culture* is not (only) a book about oil or climate change, not merely concerned with the current state of affairs and its uncertain future. After all, resource depletion is not a new phenomenon, nor is energy anxiety—the paralyzing knowledge that the particular forms of energy on which lives and livelihoods depend may be harmful, unsustainable, inaccessible, exhaustible, or, more likely, some combination of these. The end of oil, whenever and however it

arrives (if, in fact, it does arrive), will not be the first transition to a new energy regime.⁴ We aim to bring insights about past energy crises and energy transitions to bear on our current challenges, no matter how unprecedented they may be, and thereby to defamiliarize the anxious present. How has our relation to energy changed over time? What differences do specific energy sources make to human values and politics? How have changes in energy resources transformed culture? What insights do earlier energy transitions—like that from WOOD to COAL—offer for our current situation? How do questions of energy become legible in moments of CRISIS?

In other words, our collective inquiry is deeply historical in at least three ways: first, we are broadly curious about the myriad substances and forces from which humans have produced energy, including dung, tallow, plant oils, wood, charcoal, water, steam, coal, whale oil, kerosene, petroleum, natural gas, nuclear, biofuels, solar, wind, wave, and our own labor power. Second, we are interested in what happens to previous understandings of how history works when questions of energy become central. What is the role of energy availability, scarcity, and profligacy in historical change? Does a focus on energy lead us to revise received historical narratives or merely entrench their power (as, say, might be argued about the reframing of the European Enlightenment as the onset of the Anthropocene geological epoch)? Where does energy fit into the Marxian trinity of land, labor, and capital?⁵ How do we understand energy's role in the relations among base, superstructure, and ideology? How is access to energy (or *energy poverty* as a lack thereof) or vulnerability to the harms of its extraction, production, and consumption a mode of social difference and inequality that we might consider alongside those of race, class, and GENDER? And, perhaps most important, how can a more explicit focus on the difference that energy makes in our understanding of history transform previous ways of knowing rather than merely adding to them?

A crucial example of energy's capacity to transform what and how we know is its relationship to notions of historical periodization, the third way in which our inquiry is deeply historical. Climate change asks us to understand the history of modernity anew, as a history of rapidly increasing emissions of CO₂ and other greenhouse gases, which fueled directly, as historians are beginning to argue, such developments as urban settlement, the Enlightenment, industrialization, organized labor, and democracy itself. In *Carbon Democracy* (2011), Timothy Mitchell compares wood, coal, and oil in terms of the forms of social and political organization they entail. In a series of influential essays, Dipesh Chakrabarty (2009, 2012, 2014) reframes the European Enlightenment's "age of freedom" as the onset

4. Technological developments in the past decade—like hydraulic fracturing, horizontal drilling, and steam or acid injection—have made previously inaccessible petroleum deposits newly accessible (even if expensive and risky) to extract, thus prompting significant recalculations of the peak oil calendar. Given the environmental consequences of extraction and combustion for the earth's oceans and atmosphere, it is possible to think that the most pressing problem with oil is that there is not too little but rather too much left to burn. For a discussion of the shift from peak oil to "Tough Oil," see LeMenager (2014, 3).

5. For the beginning of an answer, see Diamanti (2015).

of an energy-intensive (initially steam-powered) economy that inaugurated what many see as a new geological epoch, the Anthropocene. Kenneth Pomeranz (2000) identifies access to coal as a factor that explains the “great divergence” between rates of economic growth in Europe and China in the nineteenth century. Consider also Michael Pollan’s (2006) account of the shift from the sun to fossil fuels as energy inputs in the twentieth-century industrialization of food. As Imre Szeman asks incisively, “What if we were to think about the history of capital not exclusively in geopolitical terms, but in terms of the forms of energy available to it at any given historical moment?” (2007, 806). As a counterpart to a Marxian narrative organized around modes of production, what would a modes of combustion narrative look like? What difference do various social, material, technological, and spatial relations in the production of energy make in particular periods? How is an energy transition—the shift from one dominant mode of energy production to another—shaped by and also shaping other social, ecological, and economic pressures and other kinds of transition that have been more central to familiar historical narratives? And how do we make historiographic (and political) sense of the fact that the aftermath and afterlife of this carbon history will remain with us and those who come after us, in the not-yet realized atmospheric effects of a few centuries of burning fuels that it took millions of years to fossilize?

The multiscalar approach of *Fueling Culture* juxtaposes these new grand narratives of a succession of energy regimes with varied reports from more local contexts, which demonstrate the untidiness and unevenness inherent to a history according to energy.



Periodization is no simple matter when we consider that different modes of energy use persist simultaneously (the oil era is also the coal era and, for millions around the globe, also the era of dung, wood, and charcoal) not merely between different sites across the world, but within them. One of Ed Kashi's most revealing photographs of the Niger Delta (collected in Watts and Kashi's *Curse of the Black Gold* [2008]) depicts men chopping and stacking wood for local use as fuel in the shadow of a massive oil storage tank—a striking sight in this epicenter of petroleum extraction.

To think beyond the paradox of this IMAGE, the concept of underdevelopment (the simultaneous generation of wealth for some and poverty for others) can help us understand how a petro-state like Nigeria is often plagued by fuel shortages. More broadly, ideas like energy simultaneity and energy poverty offer new ways to complicate Eurocentric progress narratives: they can help generate a better sense of the complexity and unevenness of the present and invite reflection on the fraught constituency of the “we” invoked here. It is not only possible but indeed necessary to begin to understand energy in terms of simultaneous scarcity and surplus. Even in this era of hydrocarbon modernity, too many people have too little access to energy, and the exorbitant consumption of a relative few will shape the future of all for millennia to come.

In addition to periodization, issues of scale are central to thinking about energy. In her entry on TALLOW, Laurie Shannon considers the moment when “small-scale, premodern practices of animal slaughter that were local and integrated into daily life” gave way to WHALING, the first globalizing energy industry. This shift from the “energy intimacy” of the household to antipodal oceans as the sites of energy production entails a radical broadening of energy's social, spatial, and ecological relations.⁶ Similarly, Ken Hiltner shows how a scarcity of wood led to the “skyrocketing” (and sky-blackening) use of coal in England in the decades around the turn of the seventeenth century, so that air pollution increased substantially with the intensifying spatial concentration of London. This environmental phenomenon, Hiltner observes, is legible in the differences among literary depictions of Hell: Dante's *Inferno* lacks sulfurous imagery, while Milton's *Paradise Lost* (like London's air) is choked with it (Hiltner quoted in Yaeger et al. 2011, 316–17). These analyses of the early modern period provoke a question of urgent concern to the present: Are all forms of energy “dirty” (or otherwise problematic) when scaled up to meet demand?

A more exuberant strain in the history of energy formations tracks the dizzying equivalences and exponential multiplications associated with the use of fossil fuels, which are, after all, mineral deposits of intensely compacted organic matter and sunlight. Indeed, fossil fuels are the quintessential dead metaphor, because we tend to forget that they are made of stuff that was once alive. Timothy Mitchell offers some helpful (and remarkable) ratios: “a single litre of petrol used today needed about twenty-five metric tons of ancient marine life as precursor material, . . . [and] organic matter the equivalent to all of the plant and animal life produced over the entire earth for four hundred years [which then fossilized over millions of years] was required to produce the fossil fuels we burn today in

6. For a theorization of “energy intimacy,” see Warren Cariou's ABORIGINAL entry.

a single year” (2011, 15). If using fossil fuels is, in some real sense, burning or harvesting compressed time, it also has the effect of creating and expanding space. By the end of the nineteenth century, the transition from wood to coal in Great Britain involved both massive increases in energy consumption and significant reductions in the amount of land (as woodlots) devoted to energy production: the energy derived from coal would have required forests at least eight times the size of the entire country (ibid.). This startling ratio gives a subterranean dimension to British industrial and imperial expansion in this period, when the British were also busy making use of other people’s forests in colonial India, Kenya, Mauritius, and elsewhere. These ratios involving time and space entail not time-space compression so much as expansion to a planetary scale and a duration that feels infinite. Yet note the difference between them. Within a drop of petrol, Mitchell asks us to recognize the actuality of something like the temporal eternity that English poets Andrew Marvell and William Blake imagine in a drop of dew or a grain of sand. What coal enabled for nineteenth-century Britain, however, was something like a counterfactual version of the “spatial fix” that David Harvey (2001) identifies as one of capitalism’s favorite ways of overcoming its contradictions by opening up new territories (e.g., colonies): coal allowed the country to run as if it had eight more Englands without actually having to have them. (Although, of course, actual spatial fixes through actual landgrabs and the founding of new little Englands and Scotlands were also afoot.)

Similar ratios attend industrialization’s shift from a muscular economy to a mechanical economy in the nineteenth and twentieth centuries. By 1955, the inputs of animal and human work to US industry were dwarfed by those of fossil fuels: 0.7 and 0.9 percent, compared to 90.8 percent for coal and oil (Diamanti 2014)!⁷ In *Men and Machines* (1929), popular economist Stuart Chase describes this transition to mineral energy in terms that echo the counterfactual multiplication of British landmass described above: it was as if “a billion wild horses” had been harnessed and put to work (quoted in Bob Johnson 2014, 21). Chase’s analogy is not mere wild imagining, of course; in the shift from muscles to minerals as the source of industrial and locomotive energy, the horsepower became (and remains) an important unit of measure. Since the early twentieth century, attempts to quantify that mineral energy in terms of the human capacity for work have been persistent, statistically problematic, and ideologically troubling.⁸ “Three billion hard working slaves”—or “the service equivalent of thirty servants” for every inhabitant of the United States—was the calculation that Smithsonian minerals specialists Chester G. Gilbert and Joseph Ezekiel Pogue arrived at in *Power: Its Significance and Needs* (quoted in Bob Johnson 2014, 41). Gilbert and Pogue published their museum bulletin in 1918, barely half a century after the Emancipation Proclamation had freed more than three million enslaved humans in the United States from the “wear and tear and hopelessness of a servile life,” of which, Gilbert and Pogue wrote, fossil-fueled machines as a source of captive labor “knew noth-

7. Diamanti cites Frederick Dewhurst, *America’s Needs and Resources* (1955).

8. See Bob Johnson (2014, 190n2) for a detailed explanation of the statistical difficulties of converting from horsepower to energy slaves, particularly after the onset of the automobile age.

ing” (ibid.). Buckminster Fuller was more enthusiastic in his “World Energy” map that graced the cover of *Fortune* in February 1940: “Mechanization, the harnessing of energy, is man’s answer to slavery,” Fuller declared as he compared the earth’s human population of two billion with its quantity of “inanimate energy slaves,” nearly thirty-seven billion. As the master of more than half of these slaves, “an army of 20,000,000,000,” the United States was leading the way.

Liters to oceans; years to centuries and eons; mines and wells to nonexistent woodlots, imaginary horses, and armies of inanimate slaves: at some point, the equivalences calculated in this arithmetic give way to an alchemy that turns dirty energy to gleaming gold. They enable an economy and infrastructure of the as-if, where one reaps the benefits of resources that one does not actually have. These magical equations help to explain the emergence of what I theorize elsewhere (drawing on the observations of Ryszard Kapuściński on Iran, Fernando Coronil on Venezuela, and Michael Watts on Nigeria) as petro-magic, which promises wealth without work, progress without the passage of time: all surplus! all the time! (see Wenzel 2006 and 2014b). And now that we have entered what Cecily Devereux (2014) wittily calls the “rearview mirror stage” of late petromodernity, which forces us to confront the necessity and difficulty of an energy transition toward some as-yet undetermined alternative fuel source (call it UNOBTAINIUM), a new abolitionist impulse casts an anxious eye at the costs, complicities, and constraints entailed in being human masters of so many energy slaves.⁹

This is the rub evoked in poet Ogaga Ifowodo’s suggestive image, “the chain of ease.” The speaker of the poem describes a Niger Delta scene with

petrol and paraffin piped away
from rotting dugouts and thatched huts
to float ships and fly planes,
to feed factories and the chain of ease. (2005, 4)

Note the multivalence of this metaphor, which entails both freedom and constraint, desire and complicity, the gear of the motor and the shackle of the slave. At the dawn of the twentieth century, anxiety about the displacement of human labor by machines in the United States was palpable in Gilbert and Pogue’s *Power*; “fossil fuels had destabilized on a basic somatic level both Americans’ access to work and the modern body’s relationship to its material world,” argues Bob Johnson in *Carbon Nation* (2014, 41–42). At the dawn of the current century, by contrast, the notion of “energy slaves” evokes anxiety about the putative masters’ dependency on an unsustainable, unethical system in which it is the earth itself, rather than the individual laborer, that each day shows more signs of what Gilbert and Pogue called “wear and tear.” Writing from a region that has seen successive waves of energy commodities being extracted and taken elsewhere—slaves, palm oil, petroleum—Nigerian historian G. Ugo Nwokeji notes that the task of the abolitionist movement was to transform slave labor from a seeming economic necessity to a moral scourge; “a time may

9. See, for example, Nikiforuk (2012), Jancovici (2013), and Mouhout (2011).

come,” he imagines, “when oil will be viewed in a manner not unlike eighteenth-century slavery, the greenhouse gases emitted from hydrocarbons perhaps akin to slave-produced sugar, and free labor as a parable for renewable energy” (2008, 65).¹⁰ The eight imaginary Englands that coal opened up in the nineteenth century have a chastening contemporary analogue in another somatic metaphor, the ecological footprint (precursor of the carbon footprint). This metric of biocapacity calculates specific forms of human demand placed on land, water, and atmosphere in terms of how many earths would be required to support all of humanity with environmental services at that level of demand: the typical US lifestyle, if adopted by all humans, would require more than four earths (Wackernagel and Rees 1996). For a time, coal allowed the British economy to grow as if it had additional Englands, but we now confront the limits to such growth: there is only one earth.

The counterfactual excesses and alchemic imaginings in the history and ideology of energy formations can seem stranger than FICTION, more evocative than poetry, more vivid than film: in more ways than one, energy fuels the imagination and powers cultural production. As literary and cultural critics, the three of us are particularly fascinated with the import of energy for understanding literary history and aesthetic movements and moments. As Patricia Yaeger asks in her *PMLA* editor’s column, “Instead of divvying up literary works into hundred-year intervals (or elastic variants like the long eighteenth or twentieth century) or categories harnessing the history of ideas (Romanticism, Enlightenment), what happens if we sort texts according to the energy sources that made them possible?” (2011, 305). Is it possible to periodize cultural production according to dominant modes of energy use or moments of energy transition?

The proliferation of *petro-* as a prefix—petrofiction, petroculture, PETROREALISM, petromagic-realism—is implicitly a periodizing move, with the caveat mentioned above, that the “petromodern,” denoting the period characterized by fossil fuel use, involves thinking simultaneously the disjunctive timescales and discrepant speeds of gradual sedimentation and fossilization in the prehistoric past, near-instant combustion and the fetish of acceleration in the hypermodern present, and environmental effects persisting into the distant future. This temporal layering poses a challenge to literary representation and to narrative’s working out of cause and effect. In a seminal essay (actually a book review of the English translation of *Cities of Salt*, the first volume of Abdelrahman Munif’s quintet of novels about the oil industry in a fictionalized Saudi Arabia), Amitav Ghosh wonders why the “oil encounter” has “proved so imaginatively sterile”; in other words, why the arrival of multinational oil companies (and their attendant expatriate personnel, cutting-edge technologies, and Western ideologies) in remote sites of extraction has not produced a body of novels in the same way that the spice trade inspired Luís de Camões’s *Os Lusíadas*, among

10. By “free labor,” Nwokeji presumably means labor that is self-proprietary and emancipated from slavery rather than the Marxian sense of labor alienated by capital from the means of production. The resonances between renewable energy and each of these models of free labor invite further thought.

other great literary works in the early modern period (1992b, 29–30). Ghosh’s answer to his own question looks to the qualities of the substance, which allegorize the social and spatial relations that surround it: “Oil smells bad. It reeks of unavoidable foreign entanglements.” “The history of oil is a matter of embarrassment verging on unspeakable, the pornographic” (ibid.). To attempt to write about oil, Ghosh argues, requires confronting its “slipperiness . . . , the ways in which it tends to trip fiction into incoherence” (30). The oil industry is distant and secretive, multilingual and multispatial—qualities Ghosh sees as inimical to the novel: “The truth is we do not yet possess the form that can give the Oil Encounter a literary expression” (31).

One response to Ghosh’s provocation has been to compile lists of novels and other texts about oil that challenge or update his claim (made more than two decades ago now) about the paucity of petrofiction (a term he introduced). As literary and cultural critics begin to read for energy, there is always the hook of the thematic: texts and other cultural objects about energy or where energy regimes become unmistakably manifest. As with most “turns” in interpretive studies, once you start looking for it, you see it everywhere. Certain subgenres lend themselves to this kind of analysis: think of the road novel (and movie) in the US postwar era of cheap gas and new highways or the strike novel in the era of coal. Constructing an archive or enumerating a canon of what Graeme Macdonald calls “energy classics” is a necessary first step (see FICTION), beyond which remain other paths of inquiry with more potential to disrupt our understanding of cultural production and interpretation writ large.

Our more significant methodological curiosity is in identifying protocols of reading and modes of inquiry that can perceive the pressure that energy exerts on culture, even and especially when energy is not-said: invisible, erased, elided, so “slippery” (as in Ghosh’s account of oil) and ubiquitous as to elude representation and critical attention. Invoking Pierre Macherey’s notion of the *non-dit*, where “what is important in the work is what it does not say,” Yaeger wonders whether “energy invisibilities may constitute different kinds of erasures” and offers the idea of an “energy unconscious” (along the lines of Fredric Jameson’s political unconscious) as a way of probing the presence and absence of energy within a given text or generic form (2011, 306, 309). Indeed, energy has been the great not-said (or, in terms of reception, not-seen, unread) in cultural production during the unprecedented and unrepeatable moment of abundant cheap energy in the past century or more. This is the great paradox of fossil fuel imaginaries: in literature as in life, oil in particular is at once everywhere and nowhere, indispensable yet largely unapprehended, not so much invisible as unseen.¹¹ This silence in our literary fictions has been complicit in maintaining what Szeman calls an ideological “fiction of surplus”: “not only the belief

11. In marking the absence of energy as a topic of critical discussion, we are mindful of the limits of visibility/invisibility as an explanatory framework, as if the work of the critic is merely to make the previously invisible visible and thus amenable to change. Like many objects of interventionist critical attention, energy often hides in plain sight or is spectacular yet remains politically unapprehended. In other words, the work of making things visible can remain trapped within the impasse between knowledge and action that Szeman (2011) describes.

that there will always be plenty of energy to go around” but also the failure to reckon with how nearly every aspect of what passes for modern life is premised upon access to cheap and easy energy. “It is not just energy that constitutes a limit” but also our understanding of its importance (Yaeger et al. 2011, 324).

To move beyond such limits would require an approach to the intersections of cultural production and energy that understands “petrofiction” (or “petroculture” more broadly) in terms of the fundamental parameters of a period or chronotope rather than a subgenre or theme: this expansive view would take the “oil novel” as what happens to the novel writ large in the era of oil rather than (as Ghosh would have it) a subset of texts expressly concerned with the oil industry.¹² From this perspective, one characteristic aspect of petroculture—in the maximalist sense of culture in the era of fossil fuels—is its constitutive failure to reckon with the indispensability of mineral energy, the bedrock of life as we have known it.

The everyday tedium of filling the gas tank, or in earlier times the drudgery of feeding the coal stove, brings us into contact with peculiar forms of matter to which we tend to give hardly a thought. The ratios I previously cited will blow your mind if you let them, but we mostly do not let them: that is part of the secret of petro-magic’s conjuring trick, the nonobvious obvious, the staggering facts that are easy to forget as we go about our oil-soaked lives. The failure to recognize or reckon with these transformations in the everyday lives of those who benefit from them and take them for granted amounts to a massive failure of the imagination, a normalization of the make-believe world of the as-if economy that ignores what is actually happening. In this sense, the characteristic mode of thinking about energy (for those with secure access to it) is actually not having to think about it: the unseen privilege of taking energy for granted. Although this perspective reframes Ghosh’s notion of oil’s “unspeakability” in terms of structure and ineffability rather than embarrassment or salaciousness, there is actually something scandalous about a society that so fails to apprehend the enabling conditions of its existence. (Marx’s account of the commodity fetish and the necessity of its demystification is a helpful—but incomplete—model for overcoming this “massive avoidance,” as Edward Said wrote of imperialism [1993, 60]: to be sure, energy and its sources are commodities, with all the mist and mystery they entail for Marx, but our hypothesis in *Fueling Culture* is that they are also something more.) Thus, our reading of energy and culture aims to understand their relations reflexively and dialectically, to gain critical purchase not only on the pressure that energy exerts on culture but also the pressure that culture exerts (or, in the case of the fiction of surplus, fails to exert) on energy regimes. How do we get beyond pointing to energy as a structuring impasse, an absent center? How might fictions of surplus give way to a reckoning with limits?

12. Note the parallel between this systemic, periodizing (rather than thematic) approach to petroculture (and, by extension, energy more broadly) and Timothy Mitchell’s argument that we consider as petro-states not only countries whose political economy and political ecology have been primarily and notoriously shaped by their status as oil producers (e.g., Nigeria, Venezuela, Saudi Arabia) but also the industrial democracies that have been major oil consumers: “Without the energy they derive from oil their current forms of political and economic life would not exist.” To what extent is democracy itself “carbon-based,” Mitchell asks (2011, 5–6).

Beyond questions of theme, how else do genre and other matters of form look different when we consider energy? What work do particular cultural forms do in making our relation to energy visible or obscuring it from view?

This line of analysis demands new ways of thinking that bring together questions that have often been quarantined from one another: questions about aesthetic form, on the one hand, and about the material aspects of cultural production and circulation, on the other. We might understand this double vision—and construe *matters of form* in a rather different way—by revising Roland Barthes’s distinction between *text* and *work* (and, unlike Barthes, refusing to privilege one over the other). That is, by attending to formal strategies, generic conventions, and intertextual resonances that shape the presence or absence of energy on the text’s hermeneutic “surface,” while also being cognizant of the materiality of the page itself, in the manufacture of paper and ink or screen and processor, and in the broader infrastructural and energy regimes in which cultural objects circulate, fueled by substances extracted from the earth’s geological depths. Taking energy as a central analytic requires a new kind of materialist analysis, attuned to carbon as well as capital and class. How do we read for energy in relation to both the sociology and the materiality of cultural production and distribution, as well as our own intellectual practice? Among the most groundbreaking aspects of LeMenager’s *Living Oil* is the appendix, a “Life Cycle Assessment of a Conventional Academic Print-Book” prepared by environmental engineer Sougandhica Hoysal, that estimates the energy inputs (excluding paper production) in the book’s conception, production, and transport. Environmentally concerned readers may be relieved to learn that, even if book publishing is the fourth largest industrial source of greenhouse gas emissions, a book is a far less profligate object than a cheeseburger.

This kind of reflexive materialism can begin to grapple with the double bind of energy in relation to the interpretive disciplines: these disciplines, on the one hand, are well-suited to generate the kinds of critical insight that might help transform entrenched cultural narratives like the fiction of surplus, and yet, on the other hand, they remain deeply embedded within the built environments, infrastructures, and energy regimes that, increasingly, are themselves the objects of critique. This double bind is perhaps most palpable in the classroom and in civic debate about energy policy and proposed energy infrastructure projects. Learning to read for energy can evoke in students (at least North American ones) an entirely new kind of paralyzing liberal guilt. Charges of hypocrisy (whether directed at oneself or others) are often a depoliticizing gesture that works in favor of Big Energy and the status quo. Ever since Al Gore flew on Air Force Two to rescue the Kyoto climate treaty negotiations in 1997, pointing out that one uses significant quantities of dirty energy while advocating for a cleaner future has served to delegitimize critique by deflecting attention away from the structural predicament of inhabiting an energy regime and toward the atomizing inertia of individual “choice.”¹³ (In *OFF-GRID*, Michael Truscello shows how one remains imbricated within the grid even after deciding to unplug.)

13. The hypocrisy problem obviously precedes Al Gore; see, for example, American conservationist Aldo Leopold’s famous meditation on complicity from 1932: “But have we not already

Most if not all of you reading this book are oil subjects—subjects of oil in an era when oil is often equated with life itself, as is evident in running-out-of-gas narratives like Italo Calvino’s 1970s oil-shock short story “The Petrol Pump,” in which an empty gas tank is conflated with the end of oil, which looks an awful lot like the end of the world. The challenge is how to grapple with the contradiction between the excesses of the fossil-fueled imagination and the imaginative failure to reckon with what it means to be a subject of oil. Confronting the ways in which energy regimes shape subjectivity and intersubjectivity can generate a critical awareness of one’s embeddedness within a broader system (an ontology, even) and, indeed, of how one’s own EMBODIMENT is a function of oil or other modes of combustion. Far from being a depoliticizing gesture, such an energy inventory (to adapt an idea that Edward Said borrows from Antonio Gramsci) can generate a self-knowledge of one’s relation to energy that recognizes accusations of hypocrisy or impulses of disavowal for the depoliticizing distractions they are.¹⁴

After all, energy in the petromodern present is not merely an unpleasant ADDICTION or unfortunate NECESSITY but instead bound up just as much with pleasure and desire as with GUILT and complicity: the thrill of acceleration; the smell of gasoline, which for Marcel Proust evoked the future just as powerfully as the taste of a madeleine evoked the past (Neuman 2012). LeMenager writes incisively about the aspects of “living oil” that can only be described as “loving oil” (2014, 102).¹⁵ These attachments to energy, which LeMenager aptly calls “ultradeep” (2014, 4), are only partially explained as bad love or “cruel optimism” (Berlant 2011). Our sense is that critical ambivalence (with some grief in the mix)¹⁶ is a politically more productive energy affect to cultivate than naïve asceticism or abstemiousness.

The nod to politics here indicates our sense of responsibility to the perennial question “What is to be done?” voiced by Vladimir Lenin more than a century ago and reprised by our students every semester. We intend *Fueling Culture* not so much to provide answers as to expand and complicate our understanding of what the questions might be. We see this project as a contribution to the emergent interdisciplinary formations of the environmental humanities and, more recently, the energy humanities, both of which seek to bring the critical intelligence of the interpretive and imaginative disciplines to bear on some

compromised ourselves? . . . When I submit these thoughts to a printing press, I am helping to cut down the woods. . . . When I go birding or hunting in my Ford, I am devastating an oil field, and re-electing an imperialist to get me rubber.” Voicing the perennial question of “what to do?” Leopold dismisses the option of living in the wilderness (“if there is any wilderness left”) and advocates instead for creating “new cogs” within the “economic Juggernaut” to reactivate the “residual love of NATURE” (1992, 165–66).

14. In the introduction to *Orientalism*, Said quotes Gramsci: “The starting point of critical elaboration is the consciousness of what one really is, and is ‘knowing thyself’ as a product of the historical process to date, which has deposited in you an infinity of traces, without leaving an inventory” (1978, 25). The language of sedimentation is fortuitous here.

15. For an exploration of the pedagogical import of such love, see Wenzel (2014a).

16. On environmental grief, see LeMenager (2014), Sandilands (2010), Morton (2007).

of the most urgent challenges of our time. Announcing the energy humanities, Dominic Boyer and Imre Szeman (2014) write: “What we energy humanists contend is that today’s energy and environmental dilemmas are fundamentally problems of ethics, habits, values, institutions, beliefs and power—all traditional areas of expertise of the humanities and humanistic social sciences.” (These new humanities initiatives constellated around energy and the environment are complementary but not identical: our aim in *Fueling Culture* has been to keep distinct and in tension the concepts of energy, ecology, and economy rather than collapsing any of them into the others.) With the rise of market-friendly SUSTAINABILITY discourse as a response to crisis, these interdisciplines urge dwelling critically and reflexively within problems and questions rather than rushing toward “solutions.” Crisis talk about the humanities is just as rife as on energy or the environment; although scholars in these emergent formations are mindful of the precarious institutional situation of the humanities in higher education and public life, they are also attuned to, and advocates for, the humanities as a discipline, method, and habit of mind that is singularly incisive on these burning questions. Indeed, there is a dawning and not entirely unproblematic sense that since science and economics have failed us so badly, perhaps the humanities can save us¹⁷—witness, for example, the turn to wild, unruly imagining and unreason on the part of such seemingly mild-mannered activists as Al Gore (“it’s time to out-crazy the crazy” of the hydrocarbon status quo [2009]), Bill McKibben (“this is fucked up” [2010]), or Warren Cariou (his “Tarhands” manifesto on Canadian tar sands, which mobilizes irrationality after the failure of reasoned discourse in the public sphere [2012]).

With renewed confidence and urgency, these interdisciplinary formations dedicate themselves to the work of making unforeseen connections between matter and metaphor, cultivating the capacity to read images and narratives creatively and critically, and training a supple imagination to apprehend the possible but as-yet unimagined. These reconfigured and remobilized interdisciplines can help us recognize and think through the profound ideological work that cultural objects do all the time, whether we want them to or not, while also resisting the instrumentalization of the aesthetic as a useful, pliable, and predictable tool for consciousness raising.

In this sense, we find a kind of model in Edward Said’s last book, *Humanism and Democratic Criticism* (2004), in its affirmation of the possibilities of humanist self-knowledge and self-critique and its argument for the agency of the literary and of intellectuals in public life. For Said, humanism is equally a practice of reading and a practice of citizenship, a model well-suited to the commitment of the environmental and energy humanities to speak to contemporary crises and injustices at multiple scales. Our contributors to *Fueling Culture* demonstrate an attunement both to the capacity of metaphor to open up the imagination to alternative possibility and to the revelatory power of understanding how things (whether light bulbs or legislatures) actually work.

Neither climate change nor the various economic and environmental challenges surrounding energy is merely an engineering problem: these are political problems, narrative

17. See, for example, Sörlin (2012).

problems, and, ultimately, problems of the imagination. This is the unremarked contradiction in Dipesh Chakrabarty's influential analysis of the Anthropocene: for him, humans are at once so powerful as to have changed the basic physical processes of the planet and yet so puny that their traditions and conventions of political deliberation are woefully inadequate to address this predicament. We share the sense that our politics are inadequate, that we need new narratives and new imaginative capacities that can leap (like electrons?) among enormous technical challenges, engrained habits of thinking, and the textures of everyday life. The multilayered materialism that our contributors perform here can grasp the ways in which the future is already here—for some, already or still tenuous; for others, flickering with possibility—and begin to give substance to the idea that things might be, must be, otherwise.

Banff and Ypsilanti, Summer 2014

Afterword

Imre Szeman

It is always possible to dismiss even the most threatening problems with the suggestion that something will turn up.

—E. F. SCHUMACHER, *Small Is Beautiful*

No mark survives this place, you too will yield
to unmemory. Give everything you are
in three-day pieces. Watch the gypsy iron
move, follow its commands.

Tend the rusted steel like a shepherd.

—MATHEW HENDERSON, “The Tank”

The contributions to *Fueling Culture* offer ample evidence of the multiple and varied ways in which energy has figured and transfigured human life. By highlighting the key role of fossil fuels in shaping the experience and reality of the modern, these essays provide an important and much-needed corrective to our understanding of the forces that shape societies, organize geopolitics, and, perhaps most surprisingly, animate cultural and intellectual life. Unprecedented access to massive and ever-increasing amounts of cheap energy from fossil fuels—first coal, later oil and gas—is rarely identified as a constitutive element in the narrative of modernity, which tends to be told as a story organized around a more familiar cast of characters, such as the expansion of individual and social freedoms, class struggle, challenges to cultural norms and expectations, and industrial and technological progress. While attending to energy has the potential to recast many of the dominant periodizing accounts of our present, *Fueling Culture* does not aim to offer an etiology of the modern or to nominate energy as history’s *deus ex machina*. Instead, our intent is to demonstrate the necessity of including energy in all of our investigations of the past and present, and—perhaps most important—in our projections of the shape of futures to come.

The impact and import of fossil fuels in modernity have long been invisible—one of the many cultural phenomena that the essays in this book seek to explain. But once we finally have energy on the brain, we cannot help but recognize that it was there all along, hidden in plain sight, a lumbering presence in need of an episteme to bring it to the fore. For instance, the landscape of oil derricks that opens Douglas Sirk’s *Written on the Wind*

(1956) now generates critical notice and curiosity, just as the offhand remark of Rock Hudson's character, Mitch Wayne, about relocating from TEXAS to Iran figures the geopolitics of energy into the landscape of melodrama. Set just a few years after the 1953 coup d'état that ousted the nationalist government of Mohammad Mosaddegh, the film intimates that Iran's oil fields are once again a safe site for US professionals to seek their fortune. In the 1945 novel by Robert Wilder upon which *Written on the Wind* is based, the source of the Hadley family's fortune is tobacco; the shift to oil as an obvious marker of near limitless wealth and an origin point of capitalist ACCUMULATION speaks to a symbolic function that oil still possesses—despoiled nature, masculine power, technological prowess, environmental mastery, youthful extravagance, and inevitable conflict.

Greater attention to fossil fuels in literature and culture generates changes in how we name and frame energy. This is true both for texts in which its presence is obvious—for instance, films about the social forces brought into existence by oil, ranging from George Stevens's *Giant* (1956) to Paul Thomas Anderson's *There Will Be Blood* (2007)—as well as for texts in which energy's absence needs to be thought through and challenged. To be sure, Jack Kerouac's *On the Road* (1957)—the classic American novel about the AUTO-MOBILE's promise to realize desires for freedom and mobility—meditates on many of the subjective limits and failings of the modern. Yet it seems crucially oblivious to the constitutive relationships among its eponymous “road,” the burgeoning US oil industry, and the vast infrastructures being brought into existence via the Federal-Aid Highway Act of 1956 (see Yaeger 2011). Revisiting classic texts and challenging the premises of newer ones from the perspective of oil and energy cuts to the heart of tired, boringly familiar, and utterly hypostasized tropes and figures, making them strange, disturbing, and materially animate to the present.

A focus on energy and especially fossil fuels as an interpretive strategy might well be seen as constituting little more than the application of old methods to new themes—a new sub-theme within the broader, already well-established practices of environmental criticism.¹ Such a perspective fails to grasp what makes a focus on energy so unnervingly powerful. As this book demonstrates, our culture is *fueled*. We are creatures of fossil fuels and the petrocultures that they have enabled us to inhabit. The energy of COAL and oil has allowed each of us to become more powerful than our forebears could ever have imagined. Greater attention to energy does not simply flesh out environmental studies or the practice of eco-criticism, though it certainly enables us to address the challenges of global warming and environmental crisis with greater insight and understanding. It also generates a broader, fuller and (it has to be said) *truer* sense of the operations of contemporary politics and society than would otherwise be the case. As the contributions to *Fueling Culture* ar-

1. This sense of energy criticism would be in accord with Lawrence Buell's broader assessment of the impact of environmental concern in literary studies, which he claimed in 2005 had “thus far, not changed literary studies or environmental studies so much as it has been increasingly absorbed therein. Its durability so far rests on its having introduced a fresh topic or perspective or archive rather than in distinctive methods of inquiry” (130).

gue, if we are to properly grasp the dynamics and forces shaping the texts, contexts, and imaginaries of cultural and social life, energy has to become a part of the critical vocabulary of every subject or topic under investigation.

In this sense, *Fueling Culture* makes the case for, forecasts, and proposes methodological innovations in the exploration of culture, society, and politics beyond the purview of the environment. This critical method lies in the deep connections that the essays in this volume establish between energy and human capacity or capability. There are significant links between the forms of energy that we use and depend on and the shape and character of our values, ethics, political practices, and sociopolitical imaginaries. John Urry argues, for instance, that “car culture has developed into a dominant culture generating major discourses of what constitutes the good life and what is necessary to be a mobile citizen in the twentieth century” (2007, 117). The beasts of the fossil fuel era have reshaped our expectations of what it is to be human by transforming both the landscapes we inhabit and the space and time of everyday life. In many parts of the world, one becomes an adult when one gains access to the mobility offered by a driver’s license. Dipesh Chakrabarty goes even further, claiming in his influential account of the ANTHROPOCENE that “the mansion of modern freedoms stands on an ever-expanding base of fossil-fuel use. Most of our freedoms so far have been energy-intensive” (2009, 208). The hard work of explicating and understanding the full significance of the connections between cars and the good life, between fossil fuels and the freedoms we associate with modernity, has only just begun. *Fueling Culture* highlights how our values, verities, and capacities have been engendered by fossilized sunlight—liquid forces made up of condensed time, an uncanny historical anomaly we have learned to greet with a shrug whenever we encounter it at the gas pump.

The contributions to this volume demand not only the inclusion of energy in our critical narratives, or the production of new critical methodologies, but also the reimagining of our political sensibilities and orientations. In *Carbon Nation*, historian Bob Johnson (see EMBODIMENT) insists that modern life and the depths of the modern self are the direct outcome of the “deceptively deep ecological revolution” (2014, 3) that accompanies the use of fossil fuels. The discovery of oil and the refashioning of human social life around it played an essential role in legitimating the narrative, emergent in the West since the seventeenth century, of a continuously “improving” society.² The dominant political philosophy of the fossil fuel era has been liberalism, a theory of society that functions by misrecognizing our temporary push beyond Malthusian constraints as a function of social struggle and Enlightenment maturity rather than the unrepeatably good fortune of stumbling upon

2. One of the grand tricks of the modern has been to reimagine all of life and experience as shaped by endless expansion and accumulation, which has in turn sedimented ideals of growth and images of frontiers to be conquered deeply into our social imaginaries. For an elaboration of the role played by access to cheap fossil fuels in establishing growth as a social life, see Johnson (2014, 3–40) and Mitchell (2011, 109–43). For a discussion of growth as a value in literary and cultural production, see Szeman (2011).

nonrenewable resource plentitude. If liberal democracy and its attendant freedoms (such as they are) necessitate an abundance of energy, how are we going to invite everyone (more than 11.2 billion people by the end of the century, according to the UN) into the mansion of modern freedoms when we no longer have fossil fuels as the foundation to keep the structure standing? If the energy provided by fossil fuels makes the modern possible, what does this mean for the vast majority of the planet's denizens that have yet to use these resources with the same intensity as North Americans but who desperately desire to inhabit fully the social and personal freedoms and capacities of oil modernity?

When fossil fuels are figured as an essential aspect of the political, the practices and imaginaries that have guided liberalism are drawn into question. Liberalism is a meliorative political philosophy that imagines gradual improvements to social life against the backdrop of a history unfolding without end. When it comes to the environment, the limits of such "trickle down" meliorism are obvious enough: we are already facing environmental crisis and things have to be changed radically, and *now*. If liberalism appears unable, or unwilling, to address global warming and other environmental problems, it is not only because of its lack of speed but also because its desires for improvement come with durable, if hard to detect, limits on what or how far it can reform. For instance, one thing that could never be addressed within liberal capitalism is differences in wages or wealth: "abolish poverty" is okay, "abolish wealth" is not. The dependence of liberalism on dirty energy to fuel its meliorative system constitutes an even more intractable limit or blind spot than the unjust mechanisms of its economics. As its social improvements require the energy of oil, liberalism can only imagine that there will be ever more of the stuff, even if it is, by definition, a limited resource. And because what fuels liberal programs and policies is a principal cause of environmental damage and destruction, liberalism gets stuck, unable to grasp how helping the environment is also a way of hurting it. Recognition of the true role that energy has played in fashioning the political—its figuration, beliefs, and self-imaginings—suggests that we need a new, more radical politics, one more aware of the consequences of the liberal fantasia within which we appear to be stuck.

This brings me to my final point. Looming in the background of any discussion of oil and energy are *finitude* and *the future*. If there were an endless amount of oil, we would not have to worry about its disappearance, at least from the perspective of our ability to retain, sustain, and even expand the individual and social capacities we moderns have come to associate with our lives. And were our dominant source of energy merely in limited supply—which as an ancient, organic compound, it necessarily is—analyses of it would already constitute an eschatology: the end of a specific way of life, an oil modernity that we have come to accept as our own, but which we would need to somehow refashion around other sources of energy. However, the fact that our use of oil also causes significant and ever-increasing damage to the environment introduces yet another, more profound eschatology: not only the end of modernity but of human life as such. Since burning oil damages the environment on a significant scale and with growing force, we have to worry about its very use, not just its limited availability. There is a contradiction at the heart of the project of modernity: the source of energy so essential to its operations is also a material threat

to its existence. How to figure this contradiction lies at the center of those theories and philosophies that have begun to grapple meaningfully with oil and energy.

In some cases, the intellectual project to render oil visible and nameable has been motivated by desires to push back these approaching end times and to return to the open horizon of the FUTURE that has been one of the signal features of modernity. Such projects want to retain the shape and form of oil modernity and the familiarity of the present social and political landscape, pushing back fears of finitude by appearing to name the problem. The fatal limit of these modes of inquiry is that, in their struggle to make oil newly visible, they ultimately seek to preserve and shore up all of the social practices and beliefs that arose in conjunction with oil, when its significance was still invisible. Put bluntly: the current way of dealing with our energy crisis is to state the problem in a way that affirms the necessity of the liberal status quo, as in the recent announcement by the G7 to end fossil fuel use by 2100 (the end of oil, but certainly not the end of the G7 and its values and verities!) (see Connolly 2015). This form of visibility imagines that it has the capacity to bring what Timothy Morton (2013) calls “hyperobjects,” such as global warming, into the existing space of scientific and economic calculations, thereby domesticating a threat to comprehension and pushing oil back into the comfortable space of our political and social blind spot. Nicholas Mirzoeff has described such forms of conceptualization as “Anthropocene visibility,” which “allows us to move on, to see nothing and keep circulating commodities, despite the destruction of the biosphere. We do so less out of venal convenience, as some might suggest, than out of a modernist conviction that ‘the authorities’ will restore everything to order in the end” (2014, 217).

In an effort to move beyond the limits of liberalism, Anthropocene visibility, and a capitalism ready to sacrifice everything for its own survival, the most challenging and productive investigations of energy have attempted to confront head-on the energy contradictions of modernity by making its epistemologies conceptually visible in a manner that might generate a forceful and transformative political intervention into the basic configurations of oil society. Our global society became what it is through the use and abuse of fossil fuels and now faces the twinned prospect of their decreasing supply and increasing harm. To date, our collective response to this situation amounts to little more than hoping that “something will turn up”—that is, when we permit ourselves to think about it at all. The provocative thought pieces in *Fueling Culture* help us understand why we do this, why it is a problem, and what we might do instead, in the hope that we might yet free ourselves from tending the rusted steel of oil fields that care not for our survival and will not remember us when we are gone.