

Editor's Column: Literature in the Ages of Wood, Tallow, Coal, Whale Oil, Gasoline, Atomic Power, and Other Energy Sources

CONTRIBUTORS

- 311 LAURIE SHANNON
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 323 IMRE SZEMAN

*Power! Incredible,
 barbaric power! A blast, a siren of light
 within him, rending, quaking, fusing his
 brain and blood to a fountain of flame,
 vast rockets in a searing spray! Power!* (419)

This fountain of overwriting in Henry Roth's *Call It Sleep* captures the incommensurability between the frail human form and the power of electricity. After connecting himself to the rail powering trains that run through New York's Lower East Side slums, Roth's ten-year-old protagonist, David, veers between life and death. His electrocution is self-inflicted and deliberate. Earlier in the novel David longs for the source of this "searing spray," for the fantasied angel-coal that burned the prophet Isaiah clean: "where could you get angel-coal? Mr. Ice-man, give me a pail of angel-coal. Hee! Hee! In a cellar is coal. But other kind, black coal, not angel coal. Only God had angel-coal. Where is God's cellar I wonder. How light it must be there" (231). Although David also associates cellar coal with a promising disobedience, with sexual and religious transgression, Roth is more skeptical; he explores modernity's coal-made economy as a dark power tarnishing America's promise as *di goldene medine* (the golden land). In a country that offers opportunity, but at the cost of language loss and hard labor, survival demands a constant entanglement with dirty energy.

This Editor's Column peruses the relation between energy resources and literature. 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? This would mean aligning Roth's immigrant meditations on power with Henry Adams's

Biographical notes about the contributors appear on page 326.

blue-blood musings on “the dynamo and the virgin,” or comparing David’s coal obsessions with those of Paul, the coal miner’s son in D. H. Lawrence’s *Sons and Lovers*. We might juxtapose Charles Dickens’s tallow-burning characters with Shakespeare’s, or connect the dots between the fuels used for cooking and warmth in *The Odyssey* and in Gabriel García Márquez’s *Cien años de soledad*.

I first became interested in literature’s relation to energy when, piqued by America’s energy extravagance, I picked up Jack Kerouac’s *On the Road* and wondered, how often do Dean Moriarty and Sal Paradise stop for gas? As they criss-cross the country, do they worry about how much fuel they’re using or the price of oil? Or is this a question for the twenty-first century, for a nation that survived the Arab oil embargo and the BP oil spill and may not survive global warming? By 1950 America’s appetite for oil surpassed its use of coal. By the 1970s America was consuming seventy percent of the world’s oil with little thought about sustainability. In an era of unprecedented material abundance, why should Paradise, Moriarty, or a host of other car-mad heroes worry about gas? It seemed as naturally there, as American, as the apple pie and ice cream Paradise eats “all the way across the country” (49). *On the Road*’s characters rarely experience the material world as an impediment. For Paradise even cotton picking becomes a lark. After allowing Mexican American friends to finish his picking, Paradise feels “like a million dollars; I was adventuring in the crazy American night” (100).

Even though Paradise avoids material worries, *On the Road* is fascinated with clean raw materials and their transformation into dirty culture (“before me was the great raw bulge and bulk of my American continent; somewhere far across, gloomy, crazy New York was throwing up its cloud of dust and brown steam” [79]). Energy anxiety keeps popping up. Hitching a ride east, Moriarty rants about bourgeois drivers obsessed with

“. . . the weather, how they’ll get there—and all the time they’ll get there anyway, you see. . . . ‘Well now,’” he mimicked, “‘I don’t know—maybe we shouldn’t get gas in that station. I read recently in *National Petroffious Petroleum News* that this kind of gas has a great deal of O-Octane *gook* in it and someone once told me it even had semi-official high-frequency *cock* in it, and I don’t know, well I just don’t feel like it anyway . . .’ Man, you dig all this.” He was poking me furiously in the ribs to understand. I tried my wildest best.

(209; 3rd ellipsis in orig.)

Moriarty isn’t worried about the price of oil (or its Saudi and Venezuelan sources—a problem for American business in the 1950s) or his own fuel dependency, but is Kerouac? Is there an energy unconscious at work in this text? Paradise starts his trip in the midst of the unknown and unsaid. He travels in the wrong direction (northeast) and stalls, “crying and swearing and socking myself on the head,” in “an abandoned cute English-style filling station,” where he curses and cries “for Chicago” (12–13). Are the gas station’s empty pumps a premonitory metaphor for resource anxiety, for what Pierre Macherey calls “that absence around which a real complexity is knit” (101)? Or is an empty gas station just an empty gas station—the halted traveler’s bad luck, the writer’s reality effect? In Macherey’s theory of absences, “[w]hat is important in the work is what it does not say. . . . What the work cannot say is important, because there the elaboration of the arguments is acted out in a sort of journey to silence” (87). But is this always true?

Certainly Kerouac’s characters are gasaholics. Oil dependency created their world; each city, suburb, truck stop, and bite of pie depends on Standard Oil, Shell, Mobilgas, or Phillips 66. What happens if we rechart literary periods and make energy sources a matter of urgency to literary criticism? What happens if we think systematically about how *On the Road* and its sibling texts relate to energy sources across time and space? Within the genre of the

1950s road narrative, what does it mean that John Updike's Mrs. Maple gets excited when a muscular gas station attendant rocks her car as he washes its windows (56)? What about Elizabeth Bishop's "The Moose" and its antipastoral reminder that in the twentieth century sacred sight must be carbon-based?

by craning backward,
the moose can be seen
on the moonlit macadam;
then there's a dim
smell of moose, an acrid
smell of gasoline. (173)

We need to contemplate literature's relation to the raucous, invisible, energy-producing atoms that generate world economies and motor

our reading. Let me chart some coordinates for an energy-driven literary theory. First, resource depletion is not new; it's a repetitive fact. Native Americans living in woodland regions moved entire villages whenever nearby forest stocks were depleted. A Jewish holiday is built around an oil shortage and its miraculous cessation.

Second, energy sources have varied wildly over time and space and include almost anything that burns: palm oil, cow dung, random animal carcasses mounted on sticks. When the biblical God declared, "Let there be light," was oil from fish stocks or olives the source of illumination?

Third, energy use is uneven. The age of coal is not close to being over, is perhaps barely begun (fig. 1). Looking at the "ages" of energy

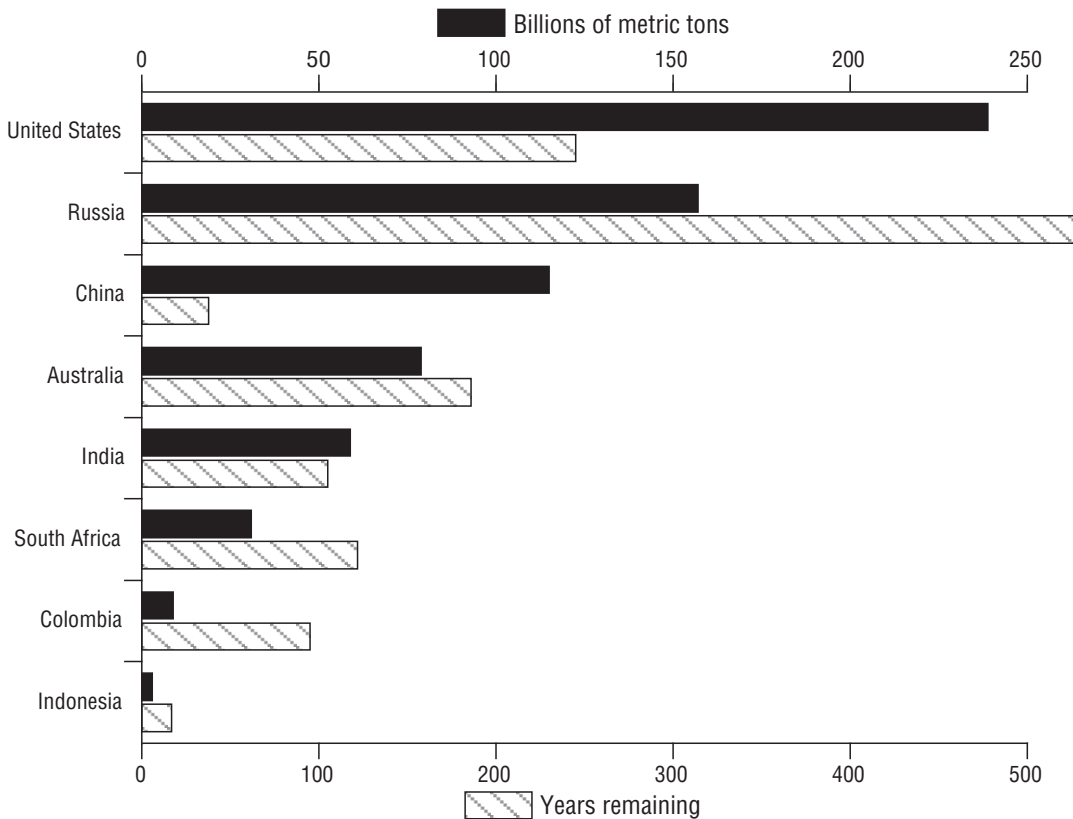


FIG. 1

Coal reserves at the end of 2009. This chart uses two scales. The upper axis (black bars) shows the amount of coal available for extraction in each country. The bottom axis shows how much longer the reserves will last at the 2009 production rate ("Burning Ambitions"; *The Economist*; Economist Newspaper, 27 Jan. 2011; Web; 28 Mar. 2011).

will never be a tidy endeavor, since fuel sources interact. Describing China's burgeoning economy, Clifford Krauss writes that

China's thirst for energy is leading it to build not only coal-fired power plants, but also wind farms, at a record pace, and to invest in energy sources around the world, like oil fields in Sudan, hydroelectric power in Burma and natural gas fields in south Texas. Beijing's ability to lift hundreds of millions of people into the middle class over the coming years will be largely based on its ability to produce more energy, and its foreign policies can also be expected to follow its energy interests. . . .

Figures 2 and 3 enumerate facets of American energy use between 1775 and 2009. Should we look at each of these systems when we examine the culture they helped to produce?

Fourth, thinking about literature through the lens of energy, especially the fuel basis of economies, means getting serious about modes of production as a force field for culture.¹ The stolen electricity at the beginning of *Invisible Man*, the marching firewood in *Macbeth*, the smog in *Bleak House*, the manure fires in Jorge Luis Borges's *Labyrinths*, the gargantuan windmills in *Don Quixote* would join a new repertoire of analysis ener-

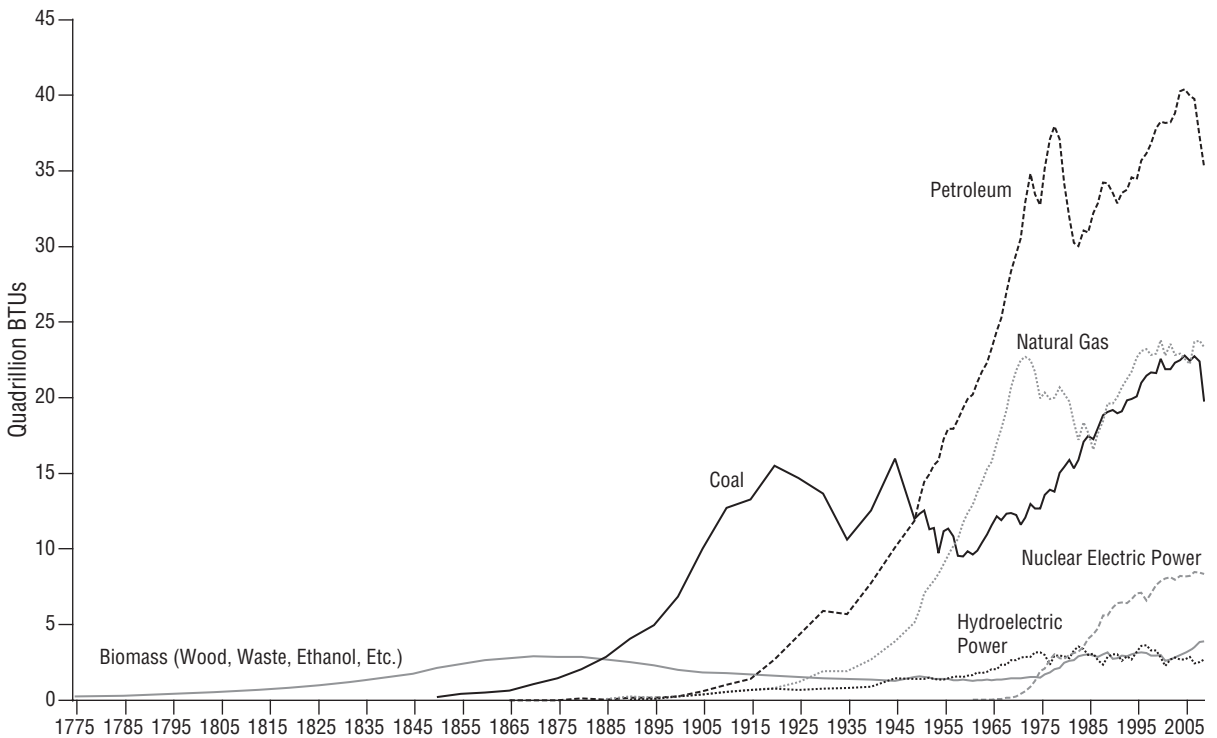


FIG. 2

Consumption of energy by source in the United States, 1775–2009. “As for the social, economic, and ecological consequences of evolving energy sources, they are too deep and numerous to do more than give suggestive examples. One of the most significant is the shift between muscle and machine power. Horses, mules, and other draft animals were invaluable prime movers well into the first half of the 20th century, and despite increasing reliance on fossil fuels and the engines they powered, the number of draft animals in the United States continued to rise until about 1920. As late as 1870, draft animals accounted for more than half of the total horsepower of all prime movers. Their displacement by fossil-fuel engines meant, eventually, the disappearance from city and farm alike of millions of animals, along with the vast stables that housed the city-based animals, the mountains of dung they left on city streets, and many of the English sparrows that fed on the grain therein” (US, Dept. of Energy, Energy Information Administration; “United States Energy History”; *Annual Energy Review 2009*; US, Dept. of Energy, Energy Information Administration, 19 Aug. 2010; Web; 8 Feb. 2011).

gized by class and resource conflict breaking into visibility.

Fifth, this inquiry about energy's visibility or invisibility might change our reading methodologies. *The Political Unconscious* has long been a bible for me, with its elucidation of three extended networks for examining texts. Fredric Jameson suggests that if we first come upon the text as a symbolic act or individual parole, we must also recognize it as an ideologue or social utterance that reconstitutes class conflict, as well as an "ideology of form," a dream catcher that captures skirmishing sign systems "which are themselves traces or anticipations of modes of production." These systems represent "progressively wider horizons" for examining the ways in which the text enacts imaginary resolutions of real social contradictions (76). Does this model of

the political unconscious also describe an energy unconscious? Without reverting to crude materialism, I want to suggest that energy invisibilities may constitute different kinds of erasures. Following Jameson, we might argue that the writer who treats fuel as a cultural code or reality effect makes a symbolic move, asserts his or her class position in a system of mythic abundance not available to the energy worker who lives in carnal exhaustion. But perhaps energy sources also enter texts as fields of force that have causalities outside (or in addition to) class conflicts and commodity wars. The touch-a-switch-and-it's-light magic of electrical power, the anxiety engendered by atomic residue, the odor of coal pollution, the viscous animality of whale oil, the technology of chopping wood: each resource instantiates a changing phenomenology that could re-

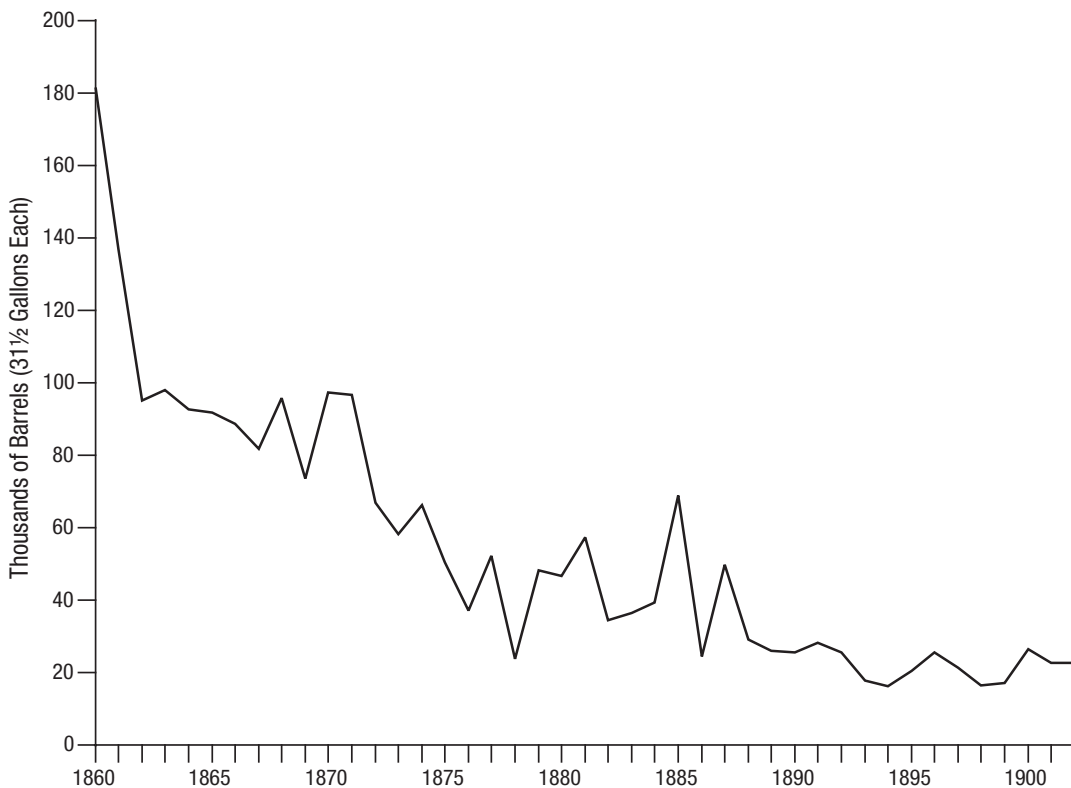


FIG. 3

Consumption of sperm and whale oils combined in the United States, 1860–1902 (US, Commission of Fish and Fisheries; *Part 28: Report of the Commissioner for the Year Ending June 30, 1902*; Washington: GPO, 1904; 204; *Google Books*; Web; 8 Feb. 2011).

create our ideas about the literary text's relation to its originating modes of production as quasi-objects.

Finally, in thinking about energy we must make room for the miniature (that faint odor of moose mingling with the smell of gasoline) but also contemplate scale and the complex relations between literature and trade. Giovanni Arrighi points out that the "reshuffling of goods in space and time can add as much use-value ('utility') to the goods so reshuffled as does extracting them from nature and changing their form and substance, which is what we understand by production in a narrow sense." He quotes Abe Galiani: "Transport . . . is a kind of manufacture . . . but so is storage" if it makes goods "more useful to potential buyers" (177). Mrs. Maple's gas station attendant washes her windshield while standing on a concrete-covered basin of stored gasoline that may have come from Venezuela, Saudi Arabia, or Oklahoma. Does this change the libidinal or economic values in Updike's text? How do we think about utility and poetry together? Whatever the answer, thinking about energy is already embedded in older and stranger histories than our own, and to unearth these histories the following essays explore the roles of tallow, wood, coal, oil, human labor, and energy futures in a variety of texts. In addition, Imre Szeman and I plan to edit a book on literature, energy, and the ways in which thinking about energy sources might transform our notions of literary periods. We hope you'll send essays and proposals to

pyaeger@umich.edu and imre@ualberta.ca by 1 September 2011.

Patricia Yaeger

NOTE

1. In Jameson's *The Political Unconscious* the text becomes "a field of force in which the dynamics of sign systems of several distinct modes of production can be registered and apprehended," and no system should become a master code or allegory for its age (98). But since fuel sources hover in the backgrounds of texts, if they speak at all, to pursue an energy unconscious means a commitment to the repressed, the *non-dit*, and to the text as a tissue of contradictions. What is the best methodology for pursuing literature's relation to energy? The answer may lie in systems theory instead of the political unconscious, or in new species of literary Marxism.

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Greasy Citizens and Tallow-Catches

LAURIE SHANNON

Hamlet, performing his self-styled madman's script, forces his auditors to remember a disturbing truth that is normally repressed: "A man may fish with the worm that hath eat of a king, and eat of the fish that hath fed of that worm" (*Ham.* 4.3.27–28). The logic of circulation in the line recalls the Pythagorean doctrine of the transmigration of souls, a view often mocked in early modernity as equivalent to insanity.¹ But Hamlet's line traces no flight by the soul from one body to another. Instead, it joins a traditional Christian perspective on worldly vanities (a fortune's-wheel argument) to an insistence on the equivalently gross materiality of all flesh, from worms to kings and back again. The economy of circulation here charts not the routes of individuated souls but rather the disindividuating paths of recycled energy.² "We fat all creatures else to fat us," his speech declaims, "and we fat ourselves for maggots" (22–23). In Hamlet's recycling vision, fat is fuel—yet fat is (also) us.

To manage the disturbance this view presents between denominators of political or entitled personhood and the commercial metrics of exchange, we designate as "tallow" only the byproduct of nonhumans—of Hamlet's "all creatures else." Tallow consists of "animal fat (esp. that obtained from . . . about the kidneys of ruminating animals, now chiefly the sheep and ox), separated by melting and clarifying from the membranes, etc., naturally mixed with it . . ." ("Tallow, sb"). While fat spoils when raw, once processed as tallow it becomes storable and portable, a product used to seal boats, make soaps, dress leather, bind foods (like haggis), and, of course, provide light through combustion.³ Tallow candlelight ranked beneath that of wax, which was pricier; *Cymbeline* disparages "the smoky light / That's fed with stinking tallow," calling it "base and illustrious" (1.6.109–

10). Reeky tallow would be replaced by the oil later commandeered by the large-scale whaling industry emerging in Massachusetts; stumping in England for the United States whaling trade in 1785, John Adams vaunted "the fat of the spermaceti whale" as yielding "the clearest and most beautiful flame of any substance that is known in nature" (308). Until then, though, tallow was a cheap, readily available staple, the yield of small-scale, pre-modern practices of animal slaughter that were local and integrated into daily life. Sheep overwhelmingly supplied tallow in a wool-producing economy. Contemporaneous literary contexts, however, persistently defy the official confinement of tallow as something derived from "all creatures else." The most interesting tallow yielders were people.

In Shakespeare's environs, the ideal deer to kill was one "in grease" or "in prime or pride of grease" ("Grease, sb"). The well-fed state of the herd in *As You Like It* provokes their designation as "fat and greasy citizens" (2.1.55). Yet even as deer are measured by their commodifiable fat, their free motion and rightful claim to Arden's woods earn them a name that countervails their commodification: "citizens." Thus, early modern animals resist wholesale reduction to usable matter. Equivocations like this one, however, also work in reverse. Persistent recognition that human matter is fat, oily, grease-laden, melt-able, combustible, and consumable erodes tallow's separation of animal fat from human flesh.

The Comedy of Errors assesses Nell in tallow metrics: "she's the kitchen wench, and all grease, and I know not what use to put her to but to make a lamp of her . . . I warrant her rags and the tallow in them will burn a Poland winter" (3.2.93–99). Falstaff affords repeated blurrings of personhood and oily

substance. Although *lean* deer were properly “rascals,” quibbles make Falstaff a “fat rascal” (i.e., a plump Yorkshire tea cake); a “fat-kidneyed rascal” (indexing the place from which tallow was drawn); and an “oily rascal” (*Wiv.* 2.2.5–6; *1H4* 2.2.5, 2.4.521).⁴ In *The Merry Wives of Windsor*, Falstaff is a beached whale whose oil might be collected (2.1.61–62); “a barrow of butcher’s offal” (3.5.5); and “the fattest” stag “i’ the forest,” who might “piss his tallow” (expend his fat or energy) in the exertions of “rut-time” (5.5.12–15), as the uncooled metaphors undermine his status as subject. As Wendy Wall specifies, “[T]he play deflates [Falstaff’s] bodily pretensions by making him into manageable domestic goods” (116–17). Seeking Falstaff, Prince Hal shouts, “Call in ribs, call in tallow,” and Falstaff enters to vivid insults climaxing with “whoreson, obscene, greasy tallow-catch.”⁵

A *tallow-catch* Falstaff is a container of commodifiable fat. When called “a candle, the better part burned out,” Falstaff confirms himself a “wassail candle . . . all tallow” (*2H4* 1.2.155–58). Noting the contempt that makes a lowly Ben Jonson character “an unsavoury snuff” (i.e., “a tallow candle quickly burning itself out”), Gail Kern Paster excavates the humoral economies enabling the conceit (222). The trope of the human body as a combustible candle also had prominent elite precedents. John Foxe’s *Book of Martyrs* (1563) recorded the Protestant Hugh Latimer’s proclamation from the stake: “We shall this day light such a candle by God’s grace in England, as (I trust) shall never be put out” (154). Elizabeth herself (decorously adjusting the metaphor to wax but preserving the logic) claims, “I have . . . been content to be a taper of true virgin wax, to waste myself and spend my life that I might give light and comfort to those that live under me” (347). Both of these self-exending candles are imagined to burn for public benefit. The trope thus works both ways, representing prodigal waste and public self-sacrifice, just as it reveals what official

nomenclatures repress about fuel: we are as combustible as “all creatures else.”

The literary apotheosis of the body-candle metaphor comes in Charles Dickens’s *Bleak House* with Mr. Krook, who combusts (appropriately enough) in a mercantile setting among the inscrutable commodities of his rag and bottle shop. Soot falls “like black fat,” and a “stagnant, sickening oil” leaves a “dark greasy coating on the walls and ceiling”; Krook’s death by “Spontaneous Combustion” is “engendered in the corrupted humours of the vicious body itself” (316–20). In *Bleak House*, this event presents a “dreadful mystery” for a coroner (323). Combustibility is no longer a familiar trope reflecting palpable knowledge of the human body’s combustible stores of energy. From the whale oil that lubricated the machines of the Industrial Revolution (retrieved by ships whose journeys recast notions of space and time) to particle physics and nanoengineering (which recast space and time again), Western culture has transitioned to forms of energy whose origins are opaque to ordinary perception, whose material workings are comprehended only by specialists, and whose business operations are shielded and securitized. One result seems clear. Literally visceral knowledge of where energy comes from, or what energy is, has been substantially extinguished.

NOTES

1. See the Pythagorean “sanity” test crazily administered to Malvolio in *Twelfth Night* (4.2.49–59).

2. For the related cycle from “dust to dust” in *Hamlet*, see De Grazia, ch. 2.

3. The Worshipful Company of Tallow Chandlers, chartered in 1462, ranks just below the wax chandlers’ company in the livery system. The present-day tallow chandlers, according to their Web site, “have . . . built up close links with energy company BP, on the basis of a *shared interest in heat and light*” (*Worshipful Company*; emphasis mine).

4. For deer nomenclatures and full discussion of “rascal Falstaff,” see Berry, ch. 5.

5. *IH4* 2.4.110–11, 225–26, amending Bevington's "keech" to the First Folio's "catch." Numerous modern editions follow earlier amendments of "catch" to "keech," or lump; "chest," "ketch," and "cask" are other alternatives but seem unnecessary (Clark and Wright 277).

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Wooden Slavery

VIN NARDIZZI

"There's wood enough within." Projected from offstage, this response to Prospero's summoning launches *The Tempest's* Caliban into literary history (1.2.315). Its emphasis on adequacy indicates that the slave has completed his work, and its disgruntled tone stems from this sense of closure and suggests an insubordination later elaborated in Caliban's plan to murder Prospero and burn his books. Such acts of defiance have made Caliban, as Jonathan Goldberg says, "a byword for anticolonial riposte" (ix). But what of the wood mentioned in Caliban's response? In pursuing this question, which may seem slight when weighed against the heft of empire and resistance to it, we discover that Caliban keys us into the indispensability of wood as the primary energy source underpinning subsistence and manufacture in the preindustrial era.¹ Moreover, the response encodes a fantasy of plenty articulated during a

time of shortage in England. This resonance has fallen off our cultural radar because, unlike Shakespeare and his contemporaries, most of us in the global North no longer live in the "age of wood."² Were we to substitute "oil" for "wood" in Caliban's debut line, we would more readily comprehend that the line evokes a necessary energy source and that the extraction and use of energy sources can cause environmental devastation. I suggest that thoughts about supply, source, and price may also have crossed the minds of *The Tempest's* earliest audience members when Caliban offers this accounting of the island's energy security.

The age of wood is, I trust, an epochal designation unfamiliar to literary scholars. In environmental history, it names a swath of time that stretches from prehistory to the second half of the eighteenth century, when coal generally replaced charcoal (an energy

source plucked from the ashes of cone-shaped piles of lumber that had been charred) in industrial iron making and fuelwood in homes, where it heated food and consumer alike. Sometimes dubbed *the wooden age* (Warde 6), this ligneous era bursts the strictures of traditional nomenclature for Anglo-American literary periods, outstripping epochs retrospectively parceled into temporal units (*the [long] eighteenth century*) or labeled for cultural movements (*the Renaissance*), monarchies (*the age of Elizabeth*), or position in relation to other periods (*the Middle Ages* and *early American*). To better apprehend the sweep of the age of wood, we could do worse than to reflect on the life span of two of the planet's most mature organisms: Methuselah, a bristlecone pine in California, and Old Tjikko, a Norway spruce in Sweden. Dendrochronological research has determined that these trees are roughly 4,800 and 9,550 years old, respectively ("Swedes"). They are colossal measuring sticks for approximating the age of wood's breathtaking temporal reach.

The counterpart of the era's mind-boggling temporal coordinates is its geographic range. In a discussion of colonial Brazil, Shawn William Miller observes that "prior to 1800 one had almost no place to go but the forest to obtain a practical source of heat" (3). Case studies of wood dependency in other preindustrial locales—colonial America (Perlin), Easter Island (Diamond), England (Nef), Germany (Warde), Japan (Totman), and the Venetian Republic (Appuhn)—and comparative accounts that start with the despoiling of woodlands in the ancient and the early modern worlds bear witness to Miller's thesis (Richards; Williams). In so doing, both kinds of environmental history have helped to color in the map of a global forest that once was.

Given the temporal and geographic magnitude of the wooden age and the diverse expertise that its study entails, how do we bring into focus the grain of literatures dating from this era? Robert Pogue Harrison offers

a model. He surveys an array of literatures to demonstrate the transhistorical force that the forest has exerted on the imagination. My sense, however, is that "wooden-age literature" tends to represent spectacular employments of this energy source, from the funeral pyres of ancient epic to public burnings of presumed heretics, and eschews its routine uses in hearth and home. When these mundane practices come into view, special circumstances frame their inclusion. Robinson Crusoe remarks that he "found it absolutely necessary to provide a place to make fire in, and fewel to burn" (Defoe 80), but although he is a meticulous recorder of everyday life, we never see him search for either on the island. Instead, he mentions these matters in connection with other events: his illness (106, 108), his firing of pottery and first baking of bread (132–34), and his discovery of a cave (182–83). Are his energy sources, despite being "absolutely necessary" to survival, paradoxically not significant enough for literary representation? Are they too prosaic to be described in their own right? Undertaking a project for fuelwood and charcoal as sprawling as Harrison's might prove well-nigh impossible.

Caliban's debut line is no exception to this representational rule. Yet it does not exhaust the presence of wood in the play: Prospero tells Miranda that they "cannot miss" Caliban because he "does make our fire" and "[f]etch in our wood" (1.2.312–13); Caliban throws down a bundle of wood at the start of one scene (2.2), and Ferdinand, the play's mock slave, hauls a log onstage in the next (3.1). This log is a synecdoche for the "[s]ome thousands" that he must "pile . . . up" (3.1.10). Why might this energy source have such stage prominence? It may well be, as *There Will Be Blood* (2008) and *Avatar* (2009) suggest, that energy sources—oil and "unobtainium," respectively, in these films—rise to a level of detailed representation during times of energy insecurity. My larger project regards Shakespeare's wooden Os—his playhouses—

as uniquely self-reflexive spaces for meditating on wood: its expense, its indispensability, its scarcity, and its centrality to dreaming. In this framework, *The Tempest* proves an imaginative record of an unprecedented wood scarcity gripping Shakespeare's England and a complex response to energy insecurity. Prices for this staple good were accelerating when *The Tempest* was first performed (Williams 170), and polemics describing an unremedied shortage predicted ecopolitical collapse.³ In a pamphlet contemporaneous with the play, Arthur Standish articulates the potential fallout: "no wood no Kingdome" (2). How might audience members affected by the scarcity have apprehended the abundance of wood on *The Tempest's* island, which could be put to various uses (from heating to ship-building), and the fact that Prospero ships off to Europe without any of it? *The Tempest's* depiction of "wooden slavery" (3.1.62) may thus have stoked colonialist desire for restocking a depleted resource long before Caliban spoke on behalf of anticolonial resistance. From our vantage, it also emblemizes a historical tendency to take essential energy sources for granted and simultaneously to mobilize them in the exercise of power, as Prospero does.

NOTES

1. In this epoch, wood was also a primary building material (Williams).

2. Pearson shows that petroleum cars can be retrofitted to run on wood. Youngs argues that the age of wood has not ended, and wood's ubiquity as a source of energy in so-called Third World nations bears this proposition out. The matter of "energy simultaneity" is outside the scope of this piece.

3. I elaborate the likely causes of this shortage and the proposed solutions to it, which included colonial plantations in Ireland and the New World, in my manuscript in

progress, "Evergreen Fantasies: Shakespeare's Theatre in the Age of Wood."

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Coal in the Age of Milton

KEN HILTNER

On a foggy morning in 1578, “greved and anoyed” by the strong smell of coal smoke in the air surrounding Buckingham Palace, Queen Elizabeth refused to travel into London (Lemon 612). The immediate problem was easily resolved: invoking an ordinance regulating the large-scale burning of coal, which had been on the books since 1307, authorities quickly arrested and imprisoned a local Westminster brewer and dyer. The larger issue, however, would not go away. The reason was simple: as Edmund Howes noted in 1615, because there was a “great scarcity of wood throughout the whole kingdom, and not only the City of London, but in all haventowns” (Howes and Stow 33), coal use was skyrocketing throughout England. While we might imagine that air pollution from fossil fuels would not become a major urban problem until the era of Blake or Dickens, it preceded them by at least two centuries. In fact, the first chimney sweeper’s song was penned not by Blake but by William Strode, in 1635.

By the time Milton was writing *Paradise Lost*, the problem was massive and deadly. While collecting data for London’s Bills of Mortality in 1665, John Graunt noticed a spike in London’s death rate when compared with that of the countryside, which he quickly connected to respiratory illness caused by coal smoke. As he succinctly noted, people “cannot at all endure the smoak of London, not only for its unpleasantness, but for the suffocations it causes” (394). Because Londoners almost exclusively burned a noxious, sulfurous form of coal known at the time as “sea coal” and the population of the city was growing at an astonishing rate (perhaps as much as tenfold from 1500 to 1700), Graunt realized that respiratory illness caused by coal smoke was quickly becoming one of London’s leading causes of death. And the danger was not limited to human beings.

As John Evelyn noted in 1661, by mid-century a variety of species of local plants in London had already become extinct because of coal smoke and the resultant acid rain (7). Similarly, by 1627 it was realized that acid rain was “tainting the pastures, and poisoning the very fish in the Thames” (Bruce 270). London’s signature fog exacerbated the situation, since it held sulfur dioxide close to the ground in a damp and deadly cloud, which affected more than just living things. Late in the 1620s, Charles I realized that “the corroding quality of the Coale Smoake, especially in moist weather,” was eating away the surfaces of even stone buildings, including, as he noted, Saint Paul’s Cathedral (Dugdale 134).

London’s air pollution problem appears in Renaissance literature as well. Although the first work to take urban air pollution as its principal subject, Evelyn’s *Fumifugium*, did not appear until 1661, a great many earlier (as well as contemporary) texts refer to the issue, if often indirectly. London’s coal-smoke problem is alluded to in such canonical works as *The Faerie Queene* and *Paradise Lost*, as well as in enormously popular poems of the time, like John Denham’s *Cooper’s Hill* (Hiltner, *What*, ch. 5). Moreover, a range of writers in the period, including Margaret Cavendish and Kenelm Digby, considered the health risks of coal smoke, while the massive mining industry that procured all this coal appears in the writings of John Leland, John Taylor (“the water poet”), Celia Fiennes, Milton, and many others. Even the choice of the word *brimstone* (which referred to sulfur and coal) for the 1611 Authorized King James translation of Hebrew and Greek words signaling, respectively, “Jehovah’s breath” and “divine incense” may have been because it was thought that the most effective way to imagine hell was to allude to London’s hellish

air pollution. In countries where coal was not used extensively, hell is rarely imagined with sulfurous air pollution. Dante's *Inferno*, for example, contains no such references.

When Milton writes about hell in *Paradise Lost*, he invokes London's air pollution problem in a variety of ways. First, he is critical of the mining operation that the devils set up in hell on a mountain that "[s]hon with a glossie scurff" (a sulphurous deposit) and "whose griesly top," like a smokestack, "[b]elch'd fire and rowling smoke" (1.674, 670–71), filling the air of hell with a sulfurous cloud. The air in Milton's hell is so bad that when the devil Beelzebub first learns of earth, he hopes traveling there might "purge off this gloom" and that earth's "soft delicious air" might, for those who "breathe her balm," "heal the scar of these corrosive fires" (2.400–02). True to Beelzebub's speculation, when Satan first arrives in Milton's Eden he behaves like someone from a "populous City" who has ventured to the countryside to freely "breathe / among the pleasant Villages and Farmes" (4.445–48). In setting up the description in this way, Milton nicely draws a parallel between hell and a "populous City," like London, whose air is so polluted that its citizens desire to leave it to breathe pure country air. The desire to leave the smell and dangers of coal smoke to enjoy the fresh air of the countryside was not limited to Milton's Satan and Queen Elizabeth; rather, as John Stow made clear in 1598, it was felt by thousand of Londoners, who, on holidays and at other opportunities, would leave their homes to "recreate and refresh their dulled spirits in the sweete and wholesome ayre" of the rural surrounds (127).

Since so many Renaissance writers, including Milton, mentioned the issue, it is useful to ask why literary critics today are often unaware of early modern London's coal-smoke problem. I suspect this is partly because we tend to associate such environmental problems with technological modernity and the so-called Industrial Revolution. While it is

true that air pollution in nineteenth-century cities like Manchester (and Dickens's fictitious "Coketown") was largely industrial in origin, industry is not the only possible source of air pollution. The citizens of early modern London caused it themselves by burning coal for cooking and residential heating, something that they had been doing for centuries before the Renaissance but now did almost exclusively (since wood was largely unavailable) and at a feverish rate. Because London's damp winters were associated with a range of illnesses and a warm fire was believed to be among the best ways of fending them off, the cheap appeal of coal proved irresistible. As I have argued, this presented Londoners with a dilemma. Knowing the health risks of the smoke but believing coal fires their best defense against winter sicknesses, Londoners kept a life grip on a practice that was killing them (Hiltner, "Renaissance Literature").

Renaissance London's air pollution may also escape our attention because English writers were sometimes reluctant to confront the issue directly, for fear of maligning their capital city, which, some of them argued, was quickly becoming the rival of Paris and Rome, neither of which had comparably polluted air. Some went so far as to outlandishly misrepresent the facts (even if they deceived no one who had ever visited London, even today), as did Thomas Gainsford in 1618: "instead of foggy mists and clouds . . . you have in London a sun-shining and serene element for the most part" (qtd. in Manley 44).

As ecocritics and historians are increasingly making clear, a range of truly modern environmental issues, such as large-scale urban air pollution from the burning of fossil fuels, first emerged in the early modern period. With these problems came a number of questions that remain with us today. With respect to coal and to fossil fuels in general, the most important of these may be as relevant now as it was then: how do we reduce our dependency on something that endangers

plants, animals, and ourselves but that we believe essential to life?

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Empire and Human Energy

SAREE MAKDISI

First Trades & Commerce ships & armed
vessels he builded laborious
To swim the deep & on the Land children are
sold to trades
Of dire necessity still labouring day & night
till all
Their life extinct they took the spectre form
in dark despair
And slaves in myriads in ship loads burden
the hoarse sounding deep:
Rattling with clanking chains, the Universal
Empire groans . . . (360–61)

William Blake's 1797 vision of empire as a global system of brutalization and exploitation reminds us that global empire, for all its interest and investment in other forms of energy—water, wind, steam, oil—has always depended most on human energy: the human power mobilized in warfare, conquest, subjugation, and, above all, the form of economic production so powerfully captured in *The*

Four Zoas. Blake's vision of bodies chained together and marshaled for the productive purposes determined and dictated by a despotic power—a vision of a world system literally powered by human energy, while tied, perhaps, to other forms of energy as well—is of enduring interest to us. For one thing, it emerged at a moment of profound transition in England and around the world, a moment that set the stage for our own era, a moment in which the imperial investment in human energy was changing qualitatively and quantitatively, as more and more peoples around the world were being violently yoked together to serve the same system of production and exchange and as—more palpable to Blake—the nature, cultures, and lifeworlds of England were being altered beyond recognition by a shift in how human energy was tapped.

More immediately, however, we ought to recognize the transformations captured by

Blake not only because they set the stage for the fully integrated, inescapably globalized world that we inherited from the 1790s but also because the transformations and dislocations of human energy initiated in his time have continued unabated into our own, in ways that affect even the readers of this journal. After all, the closest antecedents of today's academics and would-be academics are arguably the English weavers of Blake's time, whose training and skill meant nothing in an age of steam-powered machines yoked to de-skilled mechanics. The recently announced closure of several humanities departments at the University at Albany, State University of New York; the elimination of the philosophy department at the University of Middlesex; and the looming downsizing of the humanities and social sciences in the English university system are only the most recent reminders that those contemplating joining the ranks of the world's last artisans (specialized, more or less free to determine their own hours and rhythms of work, working in self-motivated or shifting cycles rather than according to an abstract institutional schedule) must contend with the continuing unraveling of a whole culture of academic teaching and research and its replacement by a system of educational mass production dependent on exploited temporary and migrant laborers whose individual skills and research interests are of little importance to managers and administrators (sixty-eight percent of university teaching in the United States is now carried out by transitory, non-tenure-track faculty members ["Background Facts"]).

Perhaps his radically destabilizing interest in the ontological formation and deformation of bodies, power, and human energy in relation to power is what makes it so difficult to locate Blake in the traditional schema of literary periods, to which we have become too accustomed. It wasn't until the 1950s that he was drafted into the company that became

known as the big six Romantic poets, but that formulation was never, for all kinds of reasons, very productive. We could just as easily read Blake in a seventeenth-century context, in the company of antinomians and Ranters, or in a twentieth-century one, in the company of futurists, vorticists, and anarchists. Literarily, he is in many senses closer to T. S. Eliot or Wilfred Owen than to Charlotte Smith or John Keats; visually, he has far more in common with Pablo Picasso and Edvard Munch than with Thomas Gainsborough and Joshua Reynolds (the president of the Royal Academy, whom he so ferociously despised); aurally, he is close, on the one hand, to Beethoven (an almost exact contemporary) and, on the other hand, to John Coltrane and Ornette Coleman, who ought, at face value, to have nothing to do with him; philosophically, he is far closer to Benedict de Spinoza than to his contemporaries Jeremy Bentham and James Mill; and politically he is the ally of Gerrard Winstanley rather than of Tom Paine. There is no real way, given the traditional schema of literary periods, to think through these kinds of relations, even at the level of the literary, never mind the visual and the aural.

The great theme running through Blake's work is his engagement with the ontological capacity of empire, its drive to organize time and space and to situate human bodies in relation to them in order to most productively tap into and devour human energy—and, of course, he engages with the resistance to that power, the refusal of those forms of organization, temporality, subjectivity, and, indeed, history. Blake's interest in what I have elsewhere called "impossible history" has precisely to do with his refusal to accede to the demands of the normative history determined by, and tied to, the ontological dispositions determined by power, and by the power of global empire above all: the normative history that structures and defines our understanding of the past by framing it in terms of the conceptual and ideological categories

appropriate only to a particular mode of existence—the one we are confronted with today. The struggle between powerful ontological dispositions of human energy and the continual resistance to them has been carried on from the fifteenth century to our time, though it intensified during the great transformations that took place during Blake's lifetime. We need an alternative way of thinking through the history of the possible and the impossible, a different way of accessing the past, and a different way of understanding our own temporality and historicity as well.

If I have focused on Blake in this context, then, it is not because of my interest in him on his own terms but rather for what his refusal of historical and periodizing norms teaches us about history and periodization themselves. His work pushes us to consider the processes of imperial investment in human energy—rather than other modes of energy, from whale oil to nuclear power—and how those processes and their accompanying forms of ontology and power (and, always, the resistance to them) define and structure history and periodization, including literary history and periodization.

Blake's example suggests the need to rethink the categories of literary (and other forms of) periodization in a way that can clarify and bring to the surface the mystified imperial investment in human energy during the overarching transformation running from the fifteenth century to the twenty-first. For all that we have heard of the long eighteenth century and the long nineteenth (formulations

that have fashionably come to define and contain, instead of being defined and contained by, literary studies), we ought, perhaps, to start paying closer attention to what Giovanni Arrighi identified as the long twentieth century—that is, the age of capital not merely as a world system but as a system that made the world recognizable *as* a world by globalizing it, largely in the pursuit of more and more efficient modes of devouring human energy, irrespective of the price paid by humanity. And in that long, overarching period we will find and connect together acts of resistance, works at odds with their times, and writers and artists who refused to go along with the triumphant march of universal empire.

Here, then, is a way to reconceptualize literary history, in terms of the shifts and dislocations of, and moments of resistance to, the extraction of human energy by global empire in the long twentieth century: a century that has outlasted its time and carried on into ours.

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Oil Spills

MICHAEL ZISER

Although coal and oil are chemically similar and equally significant in the modernization of the West, their geologic and historical particularities have produced radically different meanings in culture and the arts. The mining of coal, which must be brought by brute force from seams buried far below the ground, epitomizes the zero degree of labor that so fascinated many nineteenth-century intellectuals and underscores the ultimate dependence of even an advanced industrial society on the input of *human* energy. Little wonder that many of the most profound depictions of physical labor (Émile Zola's *Germinal* [1884], Baldomero Lilo's *Sub terra* [1904]) and of the politicization of labor (Upton Sinclair's *King Coal* and *The Coal War* [1917, 1976], George Orwell's *The Road to Wigan Pier* [1937], David Peace's *GB84* [2004]) emerged from the pit. Oil, by contrast, is a liquid that in the classic scenario flows to the surface almost of its own accord, gushing out in all directions and proposing an entirely different relation among labor, consumption, and the body. Once struck, oil returns so much more energy than is required to produce it that it becomes an effectively costless substitute for human and animal labor. A "free gift of Nature to capital" far exceeding what Marx (and other nineteenth-century economists) thought it possible for a "raw material" to contribute to economic production, it would seem to justify almost any degree of fetishization (745). At present, oil dominates a fossil-fuel economy that releases the energy equivalent of a quarter sun to the earth every day, commanding huge portions of the economic and political domain in the process. Oil fortunes, often disconnected from the socializing constraints that characterized older forms of labor-based wealth, likewise contribute to a new, looser set of possibilities governing the relation between the arts and literature and the subtend-

ing economic drivers. As a huge technological leap, ubiquitous commodity, basis for new forms of wealth and power, and pervasive infrastructural context for cultural production, oil is aesthetically and ideologically excessive.

The earliest modern oil texts, like John J. McLaurin's *Sketches in Crude-Oil* (1896), a somewhat manic omnium-gatherum history of American oil exploration in the nineteenth century, foreground the adventure of exploration in a return to the mineral imperialism associated with earlier forms of resource colonialism. The film and television industries in particular have emphasized this dimension, regularly translating complex narratives about the dawn of the oil age into more conventional frontier dramas of primitive accumulation. George Stevens's film adaptation (1956) of Edna Ferber's *Giant* (1952), for instance, preserves much of Ferber's deeply researched detail concerning the transition from a sun-based economy (cattle) to a fossil-fuel one, but it also structures itself around the oil strike as a symbolic masculine possessive climax in a way that belies Ferber's primary interest in complex side effects and aftereffects. Likewise, Paul Thomas Anderson's brilliant film *There Will Be Blood* (2007) fixates on the ferocious exertion of the will required to "bring in a well," an emphasis largely absent from its source, Upton Sinclair's *Oil!* (1927). Sinclair's novel is relatively uninterested in the founding oilman; it focuses instead on the son, who represents the second, inheriting generation of oil wealth. Sinclair cannily saw that the greatest significance of oil lay not in the way it reiterated a classic pioneer story but in the unexampled consequences of the effortless wealth it brought: the changing landscapes created by the automobile and its necessary infrastructure; the tilt in sexual mores that the car allowed, especially to

young women; the erosion of the traditional labor movement in a world ruled by a new logic of resource production and consumption; and the connection between oil-based mechanical reproduction and contemporary forms of mass media (especially print, radio, and film). This last association, established in the novel through plot points involving the Hollywood film industry and radio evangelism, is the most significant thing Anderson preserves from Sinclair: in the movie, the link is made through reflexive allusions to the history of silent film and to the filmic medium itself. The mechanical reproduction of mass culture, which so exercised key mid-century cultural theorists like Walter Benjamin and Theodor Adorno, is exposed at moments like these as something that is rooted not merely in a vague "rise of the machine" but, more fundamentally, in the development of a modern oil economy that drove the industrial and culture industries alike.

Oil is not, of course, a merely American phenomenon; many more nations than can be covered here have their own traditions of oil narrative, often involving their colonial holdings and their postcolonial spheres of influence. Of texts that emerge from within the major oil-producing powers, the most influential by far is Abdelrahman Munif's five-book, Arabic-language epic *Cities of Salt* (*Cities of Salt*, *The Trench*, *Variations on Night and Day*, *The Uprooted*, and *The Desert of Darkness*). Written by a former oil engineer whose Saudi citizenship was revoked because he criticized the alliance struck between Ibn Saud and foreign governments and corporations, Munif's quintet details, from the perspective of the Arab nonelites caught up in it, the rapid conversion of nomadic Bedouin culture into a subaltern modernity with the discovery of the Ghawar oil field and the construction of the Ras Turana shipping port in the early 1950s.

Oil production has seeped into literary history in an even more direct (if somewhat less obvious) fashion. Jennifer Wenzel has

noted the ways in which contemporary "world literature"—particularly Nigerian writing—follows closely in the wake of petroleum development, to the point that the organizations granting the international prizes that are often a critical rung of the ladder for new writers from former colonies are funded and staffed by oil companies, which have, according to Wenzel, a stake in seeing these corners of the world represented as less cosmopolitan and more benighted than the biographies of many of the writers would suggest. Hence the notice given, for example, to the ostentatiously "rotten" English of Amos Tutuola's *The Palm-Wine Drinkard* and to the "animist realism" of the London-bred Ben Okri.

During the same period that the production of oil was taking on a foreign and primitive cast, its consumption in the United States was becoming the site of an alternately ecstatic and apocalyptic *jouissance* accelerated in the postwar period by huge national investments in the interstate highway system and by the accompanying white flight to car-dependent suburbs. The golden age of the road movie began with Peter Fonda's grim tale of gasoline-powered liberty, *Easy Rider* (1969). Copycat films, like *Vanishing Point* (1971) and *Two-Lane Blacktop* (1971), kept the fetishistic treatment of the combustion engine while eliding much of the social critique, paving the way for the purely recreational and comedic road movies of the 1980s. In *The Cannonball Run* (1981), rebellion is directed only against the fifty-five-miles-per-hour speed limit imposed as an austerity measure after the oil shocks of the 1970s, and Jean Baudrillard's *America* (1986) might, if one credits oil's role in producing the postmodernist emphasis on the detachment of signification from its material foundations, be best historicized as a byproduct of the oil glut of the mid-1980s, when prices fell precipitously from their late-1970s highs. The apotheosis of this trend is *Mad Max II: The Road Warrior* (1981), in which postapocalyptic bandits

dressed in S-M leathers both husband and squander diminishing supplies of gasoline.

Since the 1970s, the excessiveness of oil has been associated not solely with wealth but also with pollution and, most recently, climate change. As Gerry Canavan has begun to document, the oil shocks of 1973 and 1979, together with the rising profile of the modern environmental movement, helped inaugurate a new strain of dystopic futurism attested in novels like Peter Brunner's *The Sheep Look Up* (1973) and J. G. Ballard's *The High-Rise* (1975). Later novels, as well as recent documentaries and feature films, have taken up this pessimistic vision of oil-induced apocalypse under the specter of climate change and high-tech imperial warfare (Werner Herzog's *Lektionen der Finsternis* [1992], Cormac McCarthy's *The Road* [2006], and Reza Negarestani's *Cyclonopedia* [2008], to name but a few of the best). All of these ask us to acknowledge the connection between the oil age and

its problematic surpluses—economic, political, environmental, sexual, aesthetic, and even religious—and to consider the human effects of its eventual passing.

NOTE

I would like to thank the participants in my spring 2010 graduate seminar on petrocultures, Will Elliott, Kelley Gove, Angie Lewandowski, Josef Nguyen, and George Thomas. They were the discoverers, producers, and refiners of many of the ideas outlined above.

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Literature and Energy Futures

IMRE SZEMAN

This special Editor's Column asks what might happen if we frame cultural and intellectual periods and the literatures they encompass not in terms of movements (e.g., modernism), nations (*British* modernism), or centuries (eighteenth, nineteenth, twentieth . . .) but in relation to dominant forms of energy. A crude, perhaps too literal form of materialism, but a suggestive one nevertheless, and not just in the *aha!* manner of all thought experiments. A periodization organized around energy draws much needed attention to one of the key conditions of possibility of human social activity: a raw input—energy—whose significance and value are almost always passed over, even by those who insist on the

importance of modes and forms of production for thinking about culture and literature.

Energy enables; different forms of energy enable differently. And energy (or its lack) also produces limits. The physicist Jacob Lund Fisker notes that the growth and development of human populations over the past two centuries "is often attributed to such things as state initiatives, governmental systems and economic policies, but the real and underlying cause has been a massive increase in energy consumption. . . . Discovering and extracting fossil fuels requires little effort when resources are abundant, before their depletion. It is this cheap 'surplus energy' that has enabled classical industrial, urban and economic development" (74). If we now think about energy more than ever, it is because we have started to worry about the implications

of its limits or impending lack, even while we continue to indulge in the fiction that energy surplus, an unrepeatably historical event, will define daily life on into the future, without major change or crisis. The fiction of surplus in which we subsist shapes not only the belief that there will always be plenty of energy to go around but also the complementary idea that easy access to energy plays (at best) a secondary role in history by comparison with human intellect and the adventure of progress; it is not just energy that constitutes a limit but also our present understanding of its social role and significance.

We expect literature to name the governing ideologies of an era, whether by announcing them in its narrative and formal contradictions and antinomies or by attempting to puncture them (however incompletely) through formal innovation, subject matter, and so on. It is startling, then, to realize that our fiction of energy surplus appears to be so completely shielded from view as to be hardly named in our literary fictions at all. A periodization organized around energy assembles literatures in new configurations: modernism, for instance, either becomes a small subset of a long period of oil literature (if we imagine this period as being kicked off by the “discovery” of oil in the United States in 1859) or anticipates and participates in the birth of the hegemony of oil (the decision by Winston Churchill, first lord of the admiralty, at the outset of World War I that the British naval fleet should be powered by oil from the Middle East instead of coal from Wales). Such a periodization fails to capture, however, the almost complete absence of oil as subject matter (direct or allegorical) in the literature written during the era when it is dominant. The exceptions are so few as to be notable, as Amitav Ghosh points out in his landmark essay “Petrofiction.” Upton Sinclair’s *Oil!* (1927), Abdelrahman Munif’s *Cities of Salt* quintet (1984–89), Patrick Chamoiseau’s *Texaco* (1992), and Reza Negarestani’s science fiction codex *Cyclonopedia* (2008) are

prominent examples of the small genre of oil novels, which seems not to be growing in size despite the almost daily appearance of oil in the news and its presence everywhere in our lives (as plastics, fertilizers, fuel for vehicles, waste washed up on beaches, etc.).¹

The dearth of oil in contemporary fiction is not a structuring absence that haunts the whole of literature—an absence inescapably present through negation (standard tricks of the literary-critical trade won’t save us here). It seems to me that there is a simpler and blunter explanation: instead of challenging the fiction of surplus—as we might have hoped or expected—literature participates in it just as surely as every other social narrative in the contemporary era. Ever more narrative, ever more signification, ever more grasping after social meaning: what literature shares with the Enlightenment and capitalism is the implicit longing for the plus beyond what is. The fact that literature in the era of oil has little to do with oil doesn’t negate the value of energy periodization. On the contrary, one of the most valuable functions of this schematic in our present moment—or, indeed, perhaps even in the whole history of literature—is to bring to light a foundational gap to which we have hitherto given little thought. This gap is the apparent epistemic inability or unwillingness to name our energy ontologies, one consequence of which is the yawning space between belief and action, knowledge and agency: we know where we stand with respect to energy, but we do nothing about it. The perverse outcome of the drama of individual and collective maturity in which we have placed our hope since Kant is a perpetual present shaped by inaction and bad faith.

This is where we find ourselves at the present. What about literature and energy futures? If our primary interest in literature’s relation to energy lies in periodization, it makes little sense to cast about for what might come after the present phase of oil literature. After all, how can one ever determine things to

come, especially with respect to literary style or form? Yet while predicting movements to come or even national literatures to come might seem meaningless, prediction becomes oddly productive when one names literary periods in relation to energy. We can't help imagining that what come after oil are newly dominant forms of sustainable energy (wave, wind, and solar power or more extensive uses of nuclear energy) or a fantastic new type we have, as yet, envisioned only in science fiction (the unobtainium of James Cameron's *Avatar*). In these futures, energy is clean, no longer a threat to the environment, and available in indefinite or even limitless quantities. Even more important, the switch to it miraculously does not threaten our way of life: we can continue to be who we are now. The possibility that, say, a solar literature might take the place of oil literature would resolve the present gap between knowledge and action. In this hope, the promise of the future underwrites and legitimizes the bad faith of the present. What makes speculating about energy futures productive is that it highlights all the more powerfully the political fantasies in which literature currently indulges.

What if after energy surplus comes deficit? How might literature respond to a future of less rather than more? We can only speculate, for even in the genre that deals with the future—science fiction—there are strikingly few examples of cultures of less. In much of science fiction (e.g., the space opera), energy is abundant, often because new sources were discovered outside the earth, as was Cameron's fantastical fuel. Lack of energy is found typically only in postapocalyptic scenarios—cautionary tales about where our fiction of surplus might lead. In both contexts, literature has disappeared, whether into the screen

or the hologram or because it has been rendered secondary to the difficult task of staying alive. Contemplating energy futures prompts us to reflect on what we desperately need in our literary present: narratives that shake us out of our faith in surplus (there will always be more; things will always be better), not by indulging in the pleasures of end times or fantasies of overcoming energy limits but by tracing the brutal consequences of a future of slow decline, of less energy for most and no energy for some—a future that might well have less literature and so fewer resources for managing the consequences of our current fictions.

NOTE

1. Peter Hitchcock's "Slick: Geocultures of Oil in Fiction" is a provocative and compelling analysis of petrofiction in film and literature.

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CONTRIBUTORS

KEN HILTNER, associate professor of English at the University of California, Santa Barbara, is the author of *Milton and Ecology* (Cambridge UP, 2003) and *What Else Is Pastoral? Renaissance Literature and the Environment* (Cornell UP, 2011), as well as the editor of *Renaissance Ecology: Imagining Eden in Milton's England* (Duchesne UP, 2008) and a coeditor of *Environmental Criticism for the Twenty-First Century* (Routledge, 2011). His dozen published essays on ecocriticism include "Early Modern Ecology," in *A Companion to English Renaissance Literature and Culture* (Blackwell, 2010), and "Nature," forthcoming in *The Princeton Encyclopedia of Poetry and Poetics*.

SAREE MAKDISI is professor of English and comparative literature at the University of California, Los Angeles. He is the author of *Romantic Imperialism: Universal Empire and the Culture of Modernity* (Cambridge UP, 1998), *William Blake and the Impossible History of the 1790s* (U of Chicago P, 2003), and *Palestine Inside Out: An Everyday Occupation* (Norton, 2008) and the editor of *Nineteenth-Century Literature*.

VIN NARDIZZI is assistant professor of English at the University of British Columbia. He is a coeditor of *Queer Renaissance*

Historiography: Backward Gaze (Ashgate, 2009) and is completing a monograph called "Evergreen Fantasies: Shakespeare's Theatre in the Age of Wood."

LAURIE SHANNON, associate professor of English at Northwestern University, is the author of *Sovereign Amity: Figures of Friendship in Shakespearean Contexts* (U of Chicago P, 2002) and *The Accommodated Animal: Cosmopolity in Shakespearean Locales* (U of Chicago P, forthcoming 2012). Both projects explore historical forms of thought about broadly constitutional questions in order to excavate the diverse terms and conditions by which stakeholderhood has been—or might yet be—imagined.

IMRE SZEMAN is Canada Research Chair in Cultural Studies and professor of English and film studies at the University of Alberta. His most recent book is *After Globalization*, cowritten with Eric Cazdyn (Wiley, 2011). He is working on a book on the cultural politics of oil.

MICHAEL ZISER is an associate professor of English at the University of California, Davis, where he codirects the Environments and Societies working group. His current long-range research project traces the historical shift from biomass to fossil fuels as it is reflected in British, American, and postcolonial literatures.