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Living Oil



*Petroleum
Culture in
the American
Century*

STEPHANIE
LEMENAGER



Living Oil

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PETROLEUM CULTURE IN THE AMERICAN CENTURY

Stephanie LeMenager

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for my parents

{CONTENTS}

Acknowledgments	ix
Prologue	1
Introduction	
Ultradeep, Petroleum Culture in the American Century	3
1. Origins, Spills	20
2. The Aesthetics of Petroleum	66
3. Petromelancholia	102
4. The Petroleum Archive	142
Epilogue	183
Appendix 1	197
Appendix 2	201
Notes	211
Index	247

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Living Oil

Prologue

Mark Twain wrote that his life was shadowed by prospective wealth. His family imagined that their Tennessee lands would someday bring them fortune. Year after year, the fortune failed to appear. Meanwhile, Twain sought it elsewhere, making terrible investments, like his famous gamble on the Paige typesetter machine, and then getting himself out of debt, by writing and lecturing. Even for those of us who are not great writers, thinking in print, whether on paper or on screen, compensates for what doesn't happen elsewhere.

My father is an oil man. Let me rephrase that. My life has been shadowed by his retrospective wealth, oil money. When I was about eight years old, I first heard of the family oil property, about twenty miles northeast of Houston. It was invoked in the car, with Loretta Lynn on the tape deck as the family toured around a small strip mall my father owned in northern Illinois. From the first, connection to it excited. I felt like we owned part of a race horse. After my parents' divorce, the oil fantasy died. It was my father's, and I went with my mother to California. Even before that time, before my transcontinental journey, the family oil lands had largely stopped producing oil. Now they aspire to be timberlands. Before that, there were futures in sand and gravel. What with the new recovery techniques that have revitalized the oil industry in the last decade or so, perhaps my father's lands will be oil lands again.

As an academic, feminist, and about as far to the left as one can reasonably live in the United States, I spend a good deal of time disagreeing with my father. He waxes poetic about the Tea Party. Yet he's the only member of the family who reads my work, eager to criticize and debate. Certainly I couldn't think of oil without him. My last stop on the research trip that brought this book to conclusion was Houston. My father and I drove up to the old family oil property from there, after promising that neither of us would tune to a partisan radio station. Muzak only.

Sheets of rain fell on the oil country, which looked to me like a woody sand patch, transected by a rushing creek. Walking across the sandy soil to get to managerial headquarters, in a tin-roofed shed about the size of a tract home, my shoes flooded. Rain pounded the tin roof. Drainage, my father said,

is what he thinks about. “Drainage, drainage, drainage!” he laughed. Knowing me, he talked about stewardship. We didn’t mention subsidence, an inevitable by-product of sucking out the innards of earth, pumping water in and taking oil out, decade upon decade. “It’s sinking here,” my father said finally, when we weren’t on the land anymore, sitting at a restaurant in Houston. He put out his two hands flat, slowly lowering them. “In many respects, it’s not a desirable place.” “But there’s synergy here,” he continued, “There’s intelligence. Energy brings intelligence, and that makes synergy. When you’re here, it’s like the center of the world.” The tin-roofed building that houses his company, more explicitly the company that he’s had a small share in since birth, sports a door sign that reads, “World Headquarters.” It’s a modest sign, the sort you make at the hardware store.

When my father was twenty-one, he first came to the oil lands, visiting from college. His maternal grandfather, a Virginian called “Old Top,” had gotten a hand in back in the Thirties. My father had been living on family charity since he was a small child. His father left his mother and him when he was six months old. He had a room at the grandparents’ home in San Antonio, where in the local movie theater he played matinee shows as a magician to make spending money. Once in college, he saw his mother’s situation grow precarious, as family circumstances changed. Oil became the next magic trick. According to him, his collaboration as a young man with other shareholders got the land producing again in the early 1960s, making money just long enough to give my grandmother a “pension.” If oil hadn’t come through, my father says, he might have had to live with his mother, to support her. “Maybe you wouldn’t be here,” he said. I am an oil man.

Every book has precedents outside of its apparent archive. Even academic books often grow, if circuitously, from the heart. My personal investments as an environmentalist and as a person grown up in oil shape what happens in this book and in the life lived around it. Before the educational opportunities that I’ve had, there was father and mother. Texas and California. After a fashion, this book honors both.

Introduction

ULTRADEEP, PETROLEUM CULTURE IN THE AMERICAN CENTURY

In terms of calendar years, we stepped into the twenty-first century about ten years ago, but in all other ways we have continued to live the life of the twentieth century, with our ongoing love affair with coal and oil.

—SUBHANKAR BANERJEE (2010)

I. Living in Oil

Reports of oil's death have been exaggerated. From the front lines of oil exploration, the photographer Subhankar Banerjee, writing about Arctic drilling for his "climatestorytellers" blog, and the nonfiction writer Rowan Jacobsen, writing about the Gulf of Mexico, warn that the problem isn't that we're running out of oil, but that we're not.¹ The activist and scholar Michael T. Klare names our current era "Tough Oil World," riffing on the oil industry's term for conventional oil resources, which it calls "easy oil."² Tough oil is tough not just because it's hard to get, but because of the devastating scale of its externalities. The world's oceans promise "more than a trillion barrels of oil reserves," according to Jacobsen—many of them only available by ultradeep drilling through salt formations that befuddle our seismic imaging technologies.³ To drill "ultradeep" is to go down 5,000 feet or more, an extension of the once space-age ambition of deepwater drilling: to go as far as 1,000 feet. Klare notes that Brazil's offshore discoveries, including the Tupi field in the South Atlantic, lie "beneath 1.5 miles of water and another 2.5 miles of compressed salt, sand, and rock."⁴ These deposits promise 100 billion barrels of oil and an inter-American alliance that could loosen U.S. dependency upon the Middle East. They also present huge technological challenges, including how to drill the salt dome and how to handle the high concentrations of natural gas believed to pocket the pre-salt field. The challenges of ultradeepwater oil rapidly are being met, but without much consideration for external costs.⁵ On land, the 23 percent of the world's oil reserves open to private development include tough oil sand and shale formations like the tar sands of northern Alberta and Venezuela and the Bakken shale formation that underlies Montana, North Dakota, and Saskatchewan.⁶ Releasing the hydrocarbons from dense rock like shale and from gummy bitumen requires water-and-chemical-intensive methods like fracking

and cyclic steam injection. The oil business always courted significant and sometimes catastrophic risk. Yet going ultradeep implies an unprecedented potential for destruction because of where these last reserves are and the violence of the experiments necessary to get them. Ultradeep implies a disregard for climate security and for the world's oceans, fundamentals of ecological health. Ultradeep also implies an unprecedented devotion, even love.

How much do we love American modernity? Assume that “we” are residents of the United States, or even just people identified with the idea of America, its ideological, stylistic, military, and economic expression of modernity for the past century or so. The continuation of this American century is what’s at stake in the “race for what’s left,” as Klare puts it, from the deepwater fields of the South Atlantic to offshore West Africa to the Arctic seabed to the North American oil and gas shales that underlie even my hometown of Ventura, California. Energy systems are shot through with largely unexamined cultural values, with ethical and ecological consequences. The science journalist Charles C. Mann recently raised the question of how the world will change if another so-called unconventional resource, the crystalline natural gas buried beneath the sea floor called methane hydrate, becomes more attractive than oil, undermining the oil revenues of Russia, Iran, Venezuela, Iraq, Kuwait, Saudi Arabia, and the United States.⁷ The continuation of American modernity might depend on unconventional petroleum resources or falter because of them, depending on what those resources are, who owns them, who benefits from them, and how they play out. As a literature professor, I’m aware that the narrative of petroleum is an unstable one, constantly shifting. I am not a political scientist, economist, or engineer, and my point is not to prophesy the future of fossil fuels, but rather to consider how the story of petroleum has come to play a foundational role in the American imagination and therefore in the future of life on earth.

It’s helpful to begin this broad project by considering the charisma of energy, as an American idea and a force. Years ago, the historian Richard White wrote about energy, specifically the hydropower derived from the Columbia River, as a means of talking about how work “involves human beings with the world so thoroughly that they can never be disentangled.”⁸ White’s point was, first, that environmentalists miss the crucial ways in which work, not leisure, forms our relationship with nonhuman life and force. “Energy” becomes a way to talk about how both humans and nonhumans do work—and avoid it.⁹ The efficiency of the river as it rearranges the world to accommodate the variability of its flow models efficient spatial arrangements that humans bring into being as we learn to use the energy of water and wood, and of coal, gas, and oil.

White describes as an Emersonian insight the recognition that Americans crave the rewards of work, riches and arguably a relationship with the world, without actual labor. “They buy slaves,” Ralph Waldo Emerson wrote in the late 1840s, “where the women will permit”—a tart dig at southern femininity, the

favored target of New England abolitionists.¹⁰ Emerson also mentions steam and water power, which take the place of slaves in the quest to avoid labor in the North. The Canadian cultural critic Andrew Nikiforuk writes about how oil literally was conceived as a replacement for slave labor, a complement to abolitionism.¹¹ The nineteenth-century petroleum booster John McLaurin described oil as a solution to class warfare and gender inequity, in his 1896 *Sketches in Crude Oil*: “It saves wear and tear of muscle and disposition, lessens the production of domestic quarrels, adds to the pleasure and satisfaction of living. . . . If it not be a blessing to humanity, the fault lies with the folks and not the stuff.”¹² It’s easy to recognize McLaurin as a variant of the snake-oil salesman, yet some of his rhetoric proves prophetic. The American middle class bloomed in a “bower” of natural gas and petroleum, to borrow McLaurin’s antique phrase. The expansion of the U.S. middle class in the mid-twentieth century into a mass culture, inclusive of working-class arrivistes, the cultivation of the world’s greatest system of public education, and essentially middle-class movements like feminism, antiwar activism, and environmentalism presumed access to cheap energy. As Frederick Buell argues, oil replaced coal’s “back-breaking labor” and widening of social caste with an energy infrastructure that seemed to support entrepreneurial individualism.¹³ Coal fictions emphasize labor struggles, the potential power of the strike, and solidification of a working class, rather than the materialization of the liberal tradition in middle-class self-possession. The perceived benefits of oil for the sake of cultural progressivism are as important to consider as the more well-known triumphalist narratives of petroleum’s critical role in World War I, when Winston Churchill decided to float the British Navy on petroleum fuel—or the huge contribution of U.S. oil to the Allies in World War II.

Suspended within a culture of oil, middle-class environmental culture would confront the single greatest difficulty of the ecological project—and its own potential hypocrisy—in fossil fuels. A crucial component of that hypocrisy was the separation of labor from the definition of American “work,” and thus of labor from our relationship, as Americans, to the nonhuman world. Consider a classic film moment from Hollywood. In *Giant* (George Stevens, 1956), Lesley Benedict as played by Elizabeth Taylor asks Jett Rink, played by James Dean, what it’s like to be a “working man” in Texas, living alongside her cattle baron husband, “Bic” (Rock Hudson). “Well, that’s something I’m gonna try to fix,” Rink replies. The something that fixes Rink’s status as a working man sure enough proves to be oil, which makes him fabulously rich and infinitely less sympathetic. American popular culture both loves and hates the lucky strike that ushers in modernity with its derricks and airports, so much less romantic than a Wild West built on real animal horsepower. An Emersonian might conceive of modern energy without too much disapproval as the operant metaphor for modern social nature, by which I mean the ecology of modernity that we humans make, with nonhuman partners, through

evolving and increasingly efficient technologies. While he disdained slavery, Emerson generally admired railroads and labor-saving machines. Mark Twain, as a southerner reared with slavery and toughened in the mining camps of Nevada, conceived the American aversion to labor in grittier terms. Twain described our propensity for gambling in earth—for the sudden and violent extraction of earth's ore that promised a forever after without labor. The prospective riches of the Tennessee lands that Twain's family hoped to sell offer a sweeter, nostalgic iteration of a brutal mining dream that included racism and magnificent destruction, like the fire near Lake Tahoe that Sam Clemens himself inadvertently set on a lumber claim. Energy as idea and as force nurtures the poetry of an Emerson and the realism of a Twain, high culture and low, an America to admire, to consume, to loathe.

The modern energy that focuses my efforts is petroleum energy, and in the word "petroleum" I intend a diversity of nonsolid hydrocarbon resources, including natural gas and, more consistently, oil. This is a book about contradictory emotions because it is a book about petroleum culture, by which I mean petroleum media, by which I mean the objects derived from petroleum that mediate our relationship, as humans, to other humans, to other life, and to things. It is a book of environmental cultural studies, driven by a fascination with petroleum aesthetics. Here the word "aesthetic" derives meaning from its most basic etymological root in how we sense and perceive, and from what have been called ideologies of the aesthetic, forms of representation and value expressed by means of display, spectacle, concealment, and stealth. We experience ourselves, as moderns and most especially as modern Americans, every day in oil, living within oil, breathing it and registering it with our senses. The relationship is, without question, ultradeep. There can be no "liveness" without mediation, as Philip Auslander has argued passionately and convincingly, making both the historical point that "mediatization is now explicitly and implicitly embedded within the live experience"—for example, we experience only "miked" voices as natural in the theater—and the ontological point that "liveness" has always been a relative term, not a pristine category.¹⁴ Let me particularize Auslander's argument to say that liveness, as in seeming to be alive, now relies heavily upon oil. Oil itself is a medium that fundamentally supports all modern media forms concerned with what counts as culture—from film to recorded music, novels, magazines, photographs, sports, and the wikis, blogs, and videography of the Internet. Many more cultural forms indebted to oil can be named, and they will be throughout this book. Can the category of the human persist, practically speaking, without such forms indebted to fossil fuels?

Oil challenges liveness from another ontological perspective, as a substance that was, once, live matter and that acts with a force suggestive of a form of life. Just as anthropologists like Stefan Helmreich are looking to the microbial oceans "to explore shifting limits of the category of *life*," the microbial life

in oil, in addition to oil's deep geologic history as life-through-time, forces questions of how biology, geology, and culture come together to define what counts as living matter.¹⁵ When the concept of nature animates petroleum aesthetics, in oil museums where, for example, fossils are prominently displayed, the category confusion of life or oil powerfully disarranges the historic role of petroleum in the materials economy. It might seem that my task would be one of unconcealment in such cases. But often I find the confusion of oil and life more interesting than their segregation. To invoke Richard White once again, I think that the centuries of work we've done as modern humans to immerse ourselves in oil means that, in fact, we are loathe to disentangle ourselves or our definition of life from it. This does not mean, of course, that Tough Oil World is inevitable. Germany, for example, demonstrates a different way forward through its increasing reliance upon renewable energy sources. Germany currently thrums on 25 percent renewable power, and it has reduced its carbon emissions by 26.5 percent, making a more significant effort to mitigate climate change than any other nation.¹⁶ The German Renewable Energy Act (2000) has become a model; promisingly, Germany's environment minister recently signed an agreement with China to expand solar and wind technologies in that country.¹⁷ (Although it also should be noted that Germany has increased its coal usage, even as China struggles to combat "black carbon" air pollution).¹⁸ The question of who the world leaders in efficient and clean energy production will be remains open. But clearly we have the technological intelligence to move beyond oil, given the political will. We had the technology to limit oil consumption even in the 1910s, when Thomas Edison and Henry Ford collaborated to invent lightweight batteries and lightweight, electric vehicles.¹⁹ A conspiracy of lead-battery producers and the advent of World War I destroyed that possible world of energy efficiency, but its legacy continues, if unevenly, in sexy alternatives to internal combustion like the Tesla Electric Roadster. Even those nations that have banned the use of plastic bags, one of the most environmentally damaging consumer items made from petroleum feedstock, suggest the possibility of living more productively with oil, if not moving beyond it.

For me, thinking and writing about oil began as a *fin de siècle* affair, one that anticipated, as it happens falsely, that the turn of the twenty-first century would mean a new energy regime—an end of the American century as we knew it. I was inspired by the concept of "peak oil." The peak oil movement that grew up in the first decade of the twenty-first century foregrounded the prediction that Hubbert's peak, the point of maximum global oil supply prior to its dwindling, had either already occurred or was scheduled to occur around 2010. In terms of access to easy oil, peak oilers were surely prescient. More important, theirs was a future-project. They pointed to a "long emergency" in which the demands of extreme climate conditions confronted limited energy resources. The movement cited scientific modeling of global

climate collapse and fossil fuel depletion in the new century, and experiential evidence of the same in weather freaks such as the European summer of 2003, Hurricane Katrina, and the fuel price spike of 2008. How to power the air conditioners of Europe, or of New York City, on a grid that we saw dramatically collapse in the northeastern United States and southern Canada, also in the early twenty-first century? Some predictions were dire, as the phrase “the long emergency” implies. Other peak oilers more optimistically focused on what Michael Ziser has called “the aesthetics of transition,”²⁰ the look and feel of newly localized economies that we find, say, in Bill McKibben’s depiction of regionalized U.S. manufacturing sectors in *Eaarth: Making a Life on a Tough New Planet* (2010), or in James Howard Kunstler’s community of unalienated (if exhausted) handworkers in the novel *World Made by Hand* (2008). The British director of the Transition Network, Rob Hopkins, started a worldwide series of community efforts to relocalize energy systems, often in gentrified small towns and hip urban enclaves such as Culver City, Los Angeles. Richard Heinberg of the Post Carbon Institute and Robert Thayer at the University of California, Davis, inspired design studios that came up with brilliant plans for the relocalization of resources in dense, well-knit communities. In 2007, my own city, Ventura, funded a remarkable “vision plan,” a fully realized blueprint for a post-peak oil future. The combination of regionalized food and watersheds, local energy grids, and access to information technology—through “greened” grids—might remake the world in the image of Burlington, Vermont, or Seattle. Bring it on.

Of course, calculating conventional oil reserves is notoriously tricky, as, to cite only one problem, there are political incentives for oil-producing countries to misreport. So there must be some guesswork involved in locating a precise peak. The sexual politics of peak oilers, including Kunstler, can be disappointing, forecasting a bucolic return to traditional gender roles in the absence of cheap fuel. Some peak oilers prophesied a massive die-out of the human population, presumably in climate-imperiled regions of the Global South, as a precondition for the new (utopian) energy regime. An abrupt end to oil would devastate humans and other forms of social nature, such as domestic animals. Peak oil theory retains a hint of the elitist suspicion of the mass public that sponsored the biologist Paul Ehrlich’s *Population Bomb* (1968) and Garrett Hardin’s “Tragedy of the Commons” (1968), both of which became useful instruments for neoliberal policy makers, as Rob Nixon has shown.²¹ Yet, again, peak oil imagines a future beyond neoliberalism. It posits an end to the energy infrastructure that sustains economic globalization in order to resolve the problem of the future for the majority of the world’s citizens, who suffer from the privatization of resources and the dispossession of commons, sometimes through apparently natural processes such as coastal subsidence. More than thirty years ago, the environmentalist and renewable energy advocate Amory Lovins warned that “we must be wary of the danger of not being

imaginative enough to see how undetermined the future is and how far we can shape it.”²² With conventional oil supplies dwindling, perhaps the future might again seem undetermined. At least “the future” might return as the primary project that it had been for much of the American twentieth century, through memes as diverse as “the space race” and “ecology.”

In 2008, when the Texas oil entrepreneur T. Boone Pickens got serious about investing in wind and released the Pickens Plan while fuel prices at the pump in the United States hit an all-time high in July of that year, it seemed that energy regime change really could be on the way. Finally, there was a renewal of the “moral equivalent of war” on oil that President Jimmy Carter had called for as a response to the energy crises of the 1970s, just one year before the Reagans moved into the White House and took down the solar panels. The journalist Steve Coll has shown how Barack Obama used ExxonMobil to stand in for a widely unpopular Big Oil in the 2008 election, in an effort to build his presidential imaginary on green jobs and the disaggregation of government from corporate interests. “We must end the age of oil,” candidate Obama had said in 2008.²³ During the first three years of the Obama presidency, Coll reports, ExxonMobil spent more than \$52 million lobbying Washington and investing in congressional Republicans, acting like a political party, betting that if it could stock the House of Representatives, it could win the country.²⁴ From here, the historical trajectory gets familiar. Some highlights: In 2010, the U.S. Supreme Court, in *Citizens United v. Federal Election Commission*, used the First Amendment to uphold the rights of corporations to make unrestricted political expenditures. When BP’s Deepwater Horizon rig blew out in April of that same year, federal response was, to say the least, disappointing.

Most poignant, in my view, was the state of Montana’s 2012 challenge to *Citizens United*, which the Supreme Court summarily reversed. Justice Stephen Breyer’s dissent points out that the Montana state law that the Court refused to consider reflected the state’s unique history as a mining region. That 1912 Montana law banning direct political contributions by corporations had been created to stop the interference of the copper kings, who bought local and state elections. Montana now sits atop an oil shale formation and a new mining era, and it is over one hundred years behind its own history in terms of safeguards for its democracy. Another historical leap backward happened less publicly, when in 2005 what has become known as “the Halliburton loophole” in the Energy Policy Act of that year made fracking a form of oil recovery not subject to hard-won regulatory protections such as the Safe Drinking Water Act.²⁵ In *Oil: The Next Revolution*, a publication of Harvard University’s Belfer Center for Science and International Affairs, author Leonardo Maugeri predicts a “glut of overproduction” of oil, largely because of what he calls the “high risk, high reward” U.S. “shale revolution.”²⁶ The Belfer Center’s research on shale oil was funded by British Petroleum and other energy companies.²⁷ Peak oilers failed to foretell the fierceness with which the oil industry would protect its assets,

even the tough ones, regardless of the damage that “de-conventionalizing” oil, in Maugeri’s euphemism, will do to the planetary climate, long-term economic stability, and human and nonhuman lives. Bill McKibben has named Exxon CEO Rex Tillerson the most “reckless man on the planet” in honor of Tillerson’s assertion that, while global climate change is “real,” it is merely an “engineering problem” with “engineering solutions.”²⁸ Meanwhile, the oceans have become 30 percent more acidic, the temperature has risen .8 degrees Celsius, one-third of the summer sea ice in the Arctic has disappeared, the atmosphere over the oceans is 5 percent wetter, promising superstorms, and in the United States we’re nowhere near a political commitment to create a carbon budget that essentially enforces “post-peak” measures.²⁹ Welcome to Tough Oil World.

Last year, the hills directly above my small, largely working-class neighborhood in Ventura, California, were fracked. Apparently this isn’t news to the oil industry, as varying forms of secondary recovery, including fracking, have been going on in my area for about sixty years. Ventura and Santa Barbara counties sit atop the Monterey shale formation, which extends from coastal zones like the place where I live, about a mile from the beach, into the Pacific Ocean.³⁰ As a resident of a newly active frack zone and of one of the most auto-dependent regions in the world, I write from within the Tough Oil future. Yet I also write from one of the most progressive oil-industry regulating states in the United States, and one of the most privileged oil regions of the world in terms of per capita wealth and aesthetic resources, which are prized by real estate developers—a powerful lobby. Ventura, which is about an hour’s drive from Los Angeles, has played the role of working oil town to its northern neighbor Santa Barbara’s resort sanctuary. Yet neither place has escaped what industry might call its geological destiny in the ocean seeps and (now) shale deposits that have made the oil business prominent here since the 1890s. The world’s first offshore wells were installed in Summerland, California, a small beach town just south of Santa Barbara. Neither a pristine nature hub that offloads the externalities of modern living onto outlying industrial deserts nor the Death Star of nature purported to be Los Angeles, my regional home holds dual investments in nature and oil. This complexity supports my contention that regions are vital intellectual frameworks for thinking about energy.

As one of the few people who have tried to write about the floating world of oil, I can bear witness to its slipperiness, to the ways in which it tends to trip fiction into incoherence. In the end, perhaps, it is the craft of writing itself—or rather writing as we know it today—that is responsible for the muteness of the Oil Encounter.³¹

—AMITAV GHOSH, “PETROFICTION” (1992)

II. Writing Oil

In the 1990s, Amitav Ghosh offered what has turned out to be the most influential first critique of “petrofiction,” fiction about oil. In a review of the book *Trench* by the Saudi writer Abdelrahman Munif, who is known for the quintet of oil novels *Cities of Salt*, Ghosh laments that literary writing, in particular the novel, balks at the oil encounter. He notes the novel’s preference for monolingual speech communities, its attachment to place, and its interest in separate “societies.” According to Ghosh, these genre tendencies are unsuited to the “bafflingly multilingual” and “intrinsically displaced, heterogeneous, and international” world of oil.³² Following Ghosh, the cultural critic Imre Szeman provides a more comprehensive explanation of why literature hasn’t dismantled our self-subjection to oil capital. “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,”³³ Szeman argues. The question of how to write about the oil encounter has plagued novelists and critics, particularly those frustrated by what Szeman describes as the Left’s failure to generate alternatives to oil capital at a moment when the dwindling of conventional oil reserves might tip us toward Tough Oil or toward a more sustainable future. I share this frustration. It is an unsurprising representational and critical morass, given the ultradeep relationship between we moderns and oil. As will become clear, I’m not seeking a literary ace in the hole or novel that writes oil as it is, “intrinsically displaced, heterogeneous, and international.” Szeman and a dynamic group of self-named “petrocritics” have begun to archive potential candidates for this best, most representationally astute oil novel.³⁴ But compelling oil media are everywhere. Films, books, cars, foods, museums, even towns are oil media. The world itself writes oil, you and I write it. Petrofiction provides one route to understanding our entanglement. So does everything else. As a critical essayist, my challenge has been to find a point of view from which to frame the *everything* of oil. Each chapter of this book tries out (*essayer*) our investments, *my* investments, in a profoundly unsustainable and charismatic energy system. This is a short cultural history of, essentially, destructive attachment, bad love.

The question of how to discuss an unsustainable attachment to nearly everything sent me looking for models in environmental writing. The environmental historian Jenny Price’s manifesto on how to write about another sprawling topic, Los Angeles, describes a narrative method that she calls, with characteristic humor, “mango body whip stories.” The phrase originates in an anecdote. In a Los Angeles parking lot, Price found a note on her windshield—an irate note—that turned out to be, also, a receipt for something called “mango body whip.” Her essay takes this as an excuse for an investigative foray to the store that sells the product, and then a brief description of its components,

where they came from, and the labor and resource inputs required to bring “mango body whip” to the Beverly Center shopping mall. She elaborates that “mango body whip stories” look for and “follow the nature we use and watch it move in and out of the city, to track very specifically how we transform nature into the mountains of stuff with which we literally lead and sustain our lives.”³⁵ I practice a variant of this narrative—and critical—method, which I call commodity regionalism. The critical genealogy of commodity regionalism moves through Price to her fellow environmental historians William Cronon and Richard White, and in environmental cultural studies through the unique career of Andrew Ross, whose recent study of Phoenix gives the term “sustainability”—at last—an explicit material context. Finally, commodity regionalism grows out of the interdisciplinary entanglements of cultural geography, arts practice, and architectural history in the work of Allan Sekula, Mike Davis, Kenneth Frampton, and Matt Coolidge, founder of the Center for Land Use Interpretation (CLUI), a research hub for cultural geographers, infrastructure geeks, and conceptual artists. Throughout the course of writing this book, I enjoyed the CLUI’s tours and exhibits of petroleum environments, and I made use of its Internet archive, the Land Use Database, to locate oil sites. The journalist Lisa Margonelli’s popular treatment of “petroleum’s long, strange trip to your tank” in *Oil on the Brain* (2007) also models a way of thinking about oil through specific places and histories. Other populist versions of commodity regionalism appear in Annie Leonard’s video shorts about the devastating externalities of our modern materials economy, for instance “The Story of Stuff” (2007), and in Alan Thein Durning and John C. Ryan’s exposés of globalization-come-home in *Stuff: The Secret Lives of Everyday Things* (1997).

Much has been written about the ineluctably transnational character of oil stories since Ghosh’s “Petrofiction.” But literary and cultural critics often ignore how the national frame obscures the regional impacts of oil. There are key exceptions, such as a beautiful photographic essay on the Alberta tar sands by Imre Szeman and Maria Whiteman, the Swiss artist Ursula Biemann’s videographic tour-de-force *Black Sea Files* (2005), Edward Burtynsky’s “app” version of his monumental photo essay *Oil* (2012), which includes his informative and moving glosses on the sites that inspired his images, Warren Cariou’s creative nonfiction storytelling of indigenous Canadians living in the tar sands, and the CLUI’s ongoing exploration of oil and water in Los Angeles and Houston—all, tellingly, hybrid works of critical/creative performance.

As in my first book about charismatic and unsustainable commodities, *Manifest and Other Destinies* (2005), here I argue that the transnational, as the fundamental if elusive space of economic globalization, tends to be most visible in regional sites of capital production and transshipment. Commodity regionalism activates vital historical and ecological frames,

opening an explicit point of view onto global-scale forces and flows, such that we can see and sense them. The regional frame assists, too, in the pursuit of the psychologically ultradeep, the affects and emotions lodged in gasoline fuel, cars, and in the thousands of everyday items made from petroleum feedstock, from lip balms to tampon applicators, dental polymers, and aspirin tablets. As Stacy Alaimo writes in a criticism of sustainability rhetoric that focuses on maintaining modern lifestyles, “rather than approach this world as a warehouse of inert things we wish to pile up for later use, we must hold ourselves accountable to a materiality that is never merely an external, blank, or inert space but an active, emergent substance of ourselves and others.”³⁷ What Alaimo calls “an ethics of mattering” becomes particularly complex, sticky, when it comes to petroleum. We wear and eat it. Our bodies write it.

Regions became more socially and economically significant—in some respects more so than nations—when globalization assumed its mature form in the late twentieth century. Of course the term “region” signifies place at a variety of scales, but it specifically gestures toward the human scale that has allowed for planning efforts we associate with the aspiration of sustainable development. Arts practitioners, as I’ve noted, have seemed less anxious than cultural critics about evoking the scale of the human, what used to be conceived as vernacular “place” in the cultural geography of John Brinkerhoff Jackson. This may simply be because art often, if not always, presents something to the human senses. The photographer, artist, and critic Allan Sekula made economic globalization visible from within a discourse about containerization and the decentralization of commercial ports in his photographic essay, *Fish Story*. “A certain stubborn and pessimistic insistence on the primacy of material forces is part of a common culture of harbor residents,” Sekula remarks, speaking of his resistance to the dematerializing rhetoric of the global as a legacy of his childhood in San Pedro, the port of Los Angeles. “This crude materialism is underwritten by disaster. Ships explode, leak, sink, collide. Accidents happen every day.”³⁸ Couldn’t the same be said of any site of the transshipment or refining of capital, such as the Gulf Coast of Texas, whose petroleum refineries process approximately 2.3 million barrels of oil per day?³⁹ Visiting such places, and living in them, makes clear that oil is a form of capital that bulks out and inhabits place, changing the quality of air, water, noise, views, and light.

Martin V. Melosi, a social historian based in Houston, makes a strong case for conceiving of “energy capitals” as physical regions rather than “centers for capital accumulation” in an abstract global field. “Energy-led development has transformed many cities and regions physically, influencing metropolitan growth, shaping infrastructure, determining land use, changing patterns of energy consumption, and increasing pollution.”⁴⁰ In short, the material impacts oil makes on places *matter* in ecological, cultural, and

aesthetic terms. When the architectural theorist Kenneth Frampton made “critical regionalism” a charismatic idea in the early 1980s, he saw it as a means of retaining an “adversary culture” against the technocratic modernism that threatened both architecture and critique.⁴¹ Critical regionalism pursued the place-form “in its public mode” as a means of insuring “legitimate” power, by which Frampton meant that it cultivated a scale of place that could support genuine democracy, in Hannah Arendt’s sense of a “space of human appearance” where we still might recognize one another as fellow citizens.⁴² Critical regionalism was a “cultural strategy” in which elements of world culture were placed in conversation with the region, so as to mark the interpenetration of spatial scales and avoid provincial “populism.”⁴³ It invested itself in local ecologies and materials, taking into account phenomenological questions of light, density, and “tactile resilience” against the dumbing down of place consciousness by weather-killing technologies like the air conditioner.⁴⁴ Invested in rematerializing capital and making explicit modernity’s spatial logics, critical regionalism suggests a strong counterweight to oil’s supposed elusiveness.⁴⁵ The method of critical regionalism has been complemented, for me, by developments in ecocriticism or environmental criticism, specifically Ursula Heise’s recognition of scale as a primary critical problem and Joni Adamson’s innovation of a style of academic writing that foregrounds the explicit material contexts of the critic’s voice and those of her intellectual collaborators, be they persons, non-human beings, or texts.⁴⁶ Exquisitely analyzed regional studies of Nigerian oil culture by Michael Watts, Rob Nixon, and Jennifer Wenzel also point a way forward for commodity regionalism.⁴⁷

The regional consciousness that I ascribe to my own critical practice exists and flourishes in fictions, nonfictions, poetry, performance, and testimony from within cultures of oil. No oil culture can exist without the self-consciousness of the world energy markets and foreign wars that oil sustains, and so, as the literary critic Graeme Macdonald suggests, there can be no “American” oil novel.⁴⁸ Or no national oil novel *per se*. However, there can be Louisianan and Californian and Texas oil novels, films, poems, and blogs that spill into the world—while at the same time offering scrupulous accounts of material effects and aesthetics, the feeling of petroleum stench in the bayou and the look of prison laborers on a California beach, raking up oil-soaked hay. I chose the coasts of California, Louisiana, and Texas as primary sites of study, because of the regionalist sympathies outlined above and because of the way that the West Coast plays against the Gulf Coast in the intertwined histories of environmentalism and fossil fuels.

For me, the dialectic of environmentalism and oil develops locally, but it ultimately delivers a strong national narrative of the twentieth-century United States, the so-called American Century. This narrative drifts to the nation’s edges, to the oil coasts with their dual significance as markets and

commons.⁴⁹ United States environmentalism with its potential to radicalize the middle class might have stalled neoliberal policies of enclosure and dispossession that now seem inevitable. Environmentalism has carried the potential to radically reconceive the meaning of progress. The first flourishing of American “ecology” in the late 1960s and 1970s included the seeds of movements that later developed in a more segregated fashion under the rubric of environmental justice, nurtured by the often nonwhite, rural, or poor members of so-called sacrifice communities that seemed to have been left behind by mainstream environmentalists. I would like to see the kind of strong recuperative work that has been done on U.S. discourses of environmental justice by activist-critics performed on what we might conceive as “mainstream” and middle-class U.S. environmentalism, a movement that is typically oversimplified by recourse to pat phrases such as NIMBY-ism.⁵⁰ California and Louisiana play crucial roles in the development of environmentalism as a force of culture in some respects divided against itself, a persistent and complicated national structure of feeling. American environmentalism grew up in conversation with oil in the bayous and oil on the California coast. Although in this book and in the broad American imaginary California might play the role of “environmentalism” to the Gulf Coast’s “oil,” it’s worth noting that California ranks second only to Texas among the United States in terms of greenhouse gas emissions.⁵¹ No place explored here stands apart from modernity, from the cultures of petroleum. To fully appreciate the potential radicalism of the ecology idea as it grew into a social movement in the United States, it is necessary to revisit that movement’s relationship to oil and to reconsider oil itself as at least a conceptually public resource and aspect of cultural memory.

This book participates in an abashed nostalgia for the American twentieth century, a fondness that chokes on the recognition that the old ways drag on and that Tough Oil isn’t the same resource as so-called easy oil, in terms of its economic, social, and biological costs. The specter of global climate change, perhaps finally made visible to Wall Street with the disaster of Hurricane Sandy, accompanies the Tough Oil future. Moreover, the oil and natural gas reserves locked in tar sands, shales, and the deep ocean have produced a return, in some North American regions, to local environmental and labor exploitation reminiscent of the frontier mining towns of the nineteenth century. Where populations long beset by failing regional economies embrace the new realities of Tough Oil, inadequate regulations and inadequately low taxes on industry promise to make the much hoped for re-industrialization of rural America “lousy for rural Americans,” Lisa Margonelli concludes.⁵² For example, without reasonable taxes on industry, who will pay for the millions of dollars in road damage that results from hundreds—if not thousands—of tractor-trailers hauling away wastewater at frack sites? The number of jobs

coming to rural Americans from the shale revolution has been, so far, significantly over-estimated, though of course any new jobs for North Dakotans or rural Ohioans might look better, in those places, than none.⁵³ Conditions in oil and gas mining regions of the Global South are exponentially worse. As a point of contrast, this book ventures briefly into the Niger Delta. Oil's virtual war on Nigeria's ethnic minorities and on the indigenous First Nations of northern Alberta, who suffer from rare cancers linked to tar sands pollution, recalls resource conflicts foundational to modernity as we know it, such as the colonization of the Americas by Europeans—where genocide worked powerfully through ecological and microbial phenomena.

My research on the U.S. Gulf Coast in the wake of the BP blowout and Hurricane Katrina made clear that the state of feeling that I call petromelancholia, by which I mean an unresolved grieving of conventional fossil fuel reserves, has not been healed by more intensive extractive processes such as ultradeep drilling. The subsidence or sinking of Gulf coastal territories at a rate of approximately one football field's worth of land every thirty-eight minutes—or every fifteen minutes, according to one scholar—figures as geological melancholia, chronic land loss.⁵⁴ Some locals compare this land attrition to territorial thefts in war. The Gulf's commercial fishermen are keenly aware of nonhuman casualties—deaths, injuries, and genetic mutation—comparable to modern war tallies. At a recent screening of the film *Dirty Energy* (Bryan Hopkins, 2011), a fisherman's wife who was present and also interviewed in the film stood up and testified to the poverty and horror of the post-BP catch, describing crabs with lungs growing on the outside of their shells and harbor seals born without eyes.

As if to reassert the presence of bodies in a region where so many disappear and are disregarded, Gulf Coast residents have turned to performance genres, including poetry, videography, and blogging. In different ways, these genres create effects of bodily presence, as well as a virtual space of appearance, a place in which to recognize each other, again, as citizens deserving of protection and rights. In the Niger Delta, where over a half century of oil mining has almost entirely destroyed the marine commons, poetry has been conceived as “aggressive realism” because of its long-standing relation to political protest.⁵⁵ Nigeria also suffers coastal subsidence. The so-called delta blues of Nigerians offer a powerful counterpoint to the blues originating on the sinking edge of the Gulf of Mexico. The performance genres of these transatlantic subsidence cultures inspire deep sensory mimicry even in a distant reader like myself, situated in a privileged and relatively well-regulated oil region of southern California.

From the poetry of coastal Louisianans to interviews with southern Californians and Newfoundlanders working the tar sands in Alberta, the genre of testimony surfaces throughout this book as a reminder that its subject lies

near to trauma as well as desire. Living in oil, through injury and pleasure, is personal, not easily transmissible as story. This is an aspect of the difficulty of writing about oil that Amitav Ghosh and his critical legatees haven't addressed. As Jacques Derrida argues, testimony and poetry are alike in their resistance to translation. What we do with testimony is enter into a contract with it, taking it on faith rather than as information that might be conveyed for itself, apart from the presence of the witness.⁵⁶ The transmissibility or resistance to translation of diverse oil narratives and the effectiveness of distinct media as a means of conveying evidence—say, of the decimation of more than 10,000 sea otters as a result of the Exxon *Valdez* spill—figure in this book as major topics. The social problem of forgetting the risks of oil extraction implies the aesthetic problem of how media incites or fails to incite protest, policy making, and other redemptive action. Debates that have raged in cultural criticism for decades, entering what now appears as a classic phase in Susan Sontag's and John Berger's writings on photography in the 1970s, resurface in chapter 1 in close examinations of oil spill media—including photography, magazines, film, blogs, and print books.

Like contemporary critics such as Maggie Nelson, I am skeptical about the relay of media → empathy → action that some of my fellow defenders of the arts and humanities would like to take for granted.⁵⁷ When the director of a documentary film stated to a live audience that he had done his job by depicting the decimation of Gulf Coast fishing one year after the BP spill so as to create empathy, and the rest was left to us, the theater emptied. His film *is* important, and the effort to create it on a shoestring budget heroic. Yet empathy attaches to no particular plan of action, as Sontag acknowledged, and it may even paralyze us in a shameful realization of the inaccessibility of political power, as Berger noted from the depths of the Vietnam War. Nonetheless, like Sontag in *Regarding the Pain of Others*, I want the images to keep coming.⁵⁸ Environmental media plays a crucial role in archiving, which is a means of measuring loss. As Lawrence Buell has argued, without environmental media we might not know either the extent of modern ecological injury or the baseline of ecological health by which to measure the damage. These media also generate sociability, by which I mean association for the sake of being together, a social form related to art and to play.⁵⁹ Both survivors and spectators of ecological crisis have been made excruciatingly aware of their exclusion from managed resource commons that, as the historian Peter Linebaugh argues, ought to exist as a fundamental right of modern citizenship from the time of the second charter of the Magna Carta.⁶⁰ The social has proven more difficult to privatize than situated resources, as has been shown, for example, by Internet protest communities responding to the BP spill or creating the Occupy movement in the United States, with its debts to the Egyptian protestors who staged a revolution on Facebook and in Tahrir Square.

Living Oil was remade, many times over, by communities beyond the academy and by modes of writing, speaking, and performing often distant from academic convention. It's a spilled book, flowing from literary criticism and cultural history into travel narrative and fragments of memoir. This stylistic hybridity speaks to my personal imbrication in oil and works to answer oil's complicity in privatization and dispossession with what I hope is an accessible humanist scholarship. When the public universities of Pennsylvania agreed to allow fracking on their campuses in an attempt to offset student tuition increases and other symptoms of drastic statewide cuts to public education, the fact that universities are in no sense "protected" from Tough Oil World became impossible to ignore.⁶¹ Offshore fracking near my campus and onshore fracking in the agricultural region to the north of it leaves some of my colleagues nervous about what's in the water.⁶² While studies haven't found that the drilling chemicals associated with fracking necessarily result in groundwater contamination, it's unclear what the seismic effects of fracturing near naturally occurring faults (say, in a seismically troubled seabed) might be. Moreover, natural gas escaping near the surface of some frack wells has been found to contaminate drinking water, and it contributes to global climate change.⁶³ These are strange concerns to consider within the conventionally pastoral frame of the North American university campus. The future of public higher education literally sits atop the shale revolution, with its extravagant risks. The global movements of these fossil fuels and their imbrication in all aspects of social and economic endeavor, let alone the personal nature of their effects in our bodies, demand the collaborative efforts of academics, artists, scientists, industry, and everyone—which means *everyone*—living in Tough Oil World. Without such collaboration, there can be no narrative intelligence capacious enough to approach oil's cultural and ecological legacies. This book invites conversation.

Living Oil presents four distinct windows onto our persistent twentieth century as North Americans, living within oil primarily in the United States of America. In chapter 1, the Santa Barbara oil spill of 1969 generates a set of critical problems in oil culture that will resurface throughout the book, including the temporal limitations of radicalism, the relationship of media to action, and the forgetting of risk. Chapter 2 considers the aesthetics of petroleum in California and in the United States as the freeway-suburban complex develops through the mid-twentieth century, producing as many reasons for loving oil as for fearing it. In chapter 3, contemporary petromelancholia—the grieving of conventional oil resources and the pleasures they sustained—answers twentieth-century petroleum aesthetics with testimony from a disappearing world, from a World War III, in one author's phrase, that pits the ecologies of the Global South against oil extraction. Chapter 4 moves beyond the end of the world to visit three potential archives of the future, oil museums in Los Angeles, Alberta, and Texas that commemorate distinct genealogies of energy

and diverse ways forward. In my epilogue, I offer a speculative nonfiction gloss on my own neighborhood as a vital energy district and some thoughts about future genres of protest. In my appendix, I outline the energy costs of producing this book as print media, with suggestions about the relative ecological weight of products meant for immediate disposal, like fast-food hamburgers, versus thought.