This thick edited collection from Hannah Appel, Arthur Mason and Michael Watts contains 18 interdisciplinary chapters (as well as an introduction and photo essay) on the “life worlds of oil and gas”. The work attends to an industry that is as all-pervasive as it is seemingly impenetrable: our Earth is crisscrossed by the circuit of more than two million kilometers of pipeline and is spotted with the depressions of approximately five million oil wells. Oil seems to be so everywhere-present—in our quotidian plastics of need and leisure and lubricating the transportation of our bodies, food and goods—that it has been equated with modernity and attributed with reconstituting modern capitalism (indeed, Matthew Huber [2013] calls it capitalism’s “lifeblood”). Simultaneously, oil has been likened to actual human blood and, hence, to death. The Saudi novelist, Abdul Rahman Munif, for example, “laid down the equation that in the dialectic of oil, each drop of oil equals a drop of blood” (Kadri 2014: 2). This ubiquity of oil has led some to characterize the contemporary capitalist world as having an “oil ontology” (Szeman 2010)—that is to say, a penchant to live as if oil is the origin and center of human existence. Through our oil ontology, we have arranged our societies so that oil is our collective raison d’être. Imre Szeman (2010:34) observes some of the paradoxes of this ontology:
Oil was everywhere, connected to everything—and yet there was something missing…it still seems to be difficult to capture the fundamental way in which access to petrocarbons structures contemporary social life on a global scale…Oil is not just energy. Oil is history…And oil is also ontology, the structuring “Real” of our contemporary sociopolitical imaginary, and perhaps for this reason just as inaccessible as any noumenon in the flow of everyday experience from the smoggy blur of sunrise to sundown.

Considering oil’s biopower as the “artificer of the world” (p.29), Peter Hitchcock describes oil’s biophysical power as a slick, sticky, viscous substance that is ambiguously central to a modernity that is nonetheless speciously premised upon its inexhaustible consumption. In this reading, oil is the cure and the poison: it is modernity’s “pharmakon” (Hitchcock, p.51). At the same time that some espouse “disposable energy” as a new metric for national economic health relative to “happiness” (rather than GDP—see Jane Guyer’s chapter, p.237), the conditions and relations of the industry produce and promote “a form of gluttony and rapaciousness” that is intrinsically socially and ecologically destructive (Anna Zalik, this volume, p.356). The modernity narrative directed by an oil ontology is one of unrelentingly intensified progress (faster-and-faster, bigger-and-bigger, more-and-more!), while nonetheless resigning us to a scorched earth as fossil-fuel capitalism embarks on the “the pitiless destruction of everything and everyone it cannot use” (Berman 1982: 121).

The editors of Subterranean Estates expound that the “scale and reach of the sector is in fact almost impossible to fully grasp in part because of the difficulty of
deciding on its circumference and its limits” (p.5). Yet, knowledge of the elements of the industry and of the substance itself is paramount for the safeguarding of human and more-than-human ecosystems, for (re)negotiating rights and asserting resource justice, and for imagining, constituting, and defending a world that is livable without oil as capitalism’s lifeblood and, consequently, our collective death-blood. Accounting for the complex orderings and fixings of oil and gas temporalities, spatialities, dynamics and flows is exigent when the varying worlds of oil both sustain the depth and breadth of global inequalities and nurture the apocryphal narratives of inevitability and progress embedded within modernity.

Juxtaposed between the “intellectual vertigo” induced by this massive industry and “oil’s cynosural politics”, the authors seek to clear away some of the “epistemic murk” that pervades the worlds of oil and gas (p.9). This murk is a consequence of the scale and influence of oil within fossil-fuel capitalism (see Huber’s chapter here), the secrecy and ventriloquism of the industry (see Saulesh Yessenova’s chapter, and also Silverstein 2014) and the contestations of oil knowledge (see the chapters by Suzana Sawyer, Sara Wylie and Zalik). The editors refer to the latter as the “startling degree of inexactitude, fundamental empirical disagreement, and lack of confidence in [even] basic data” regarding oil (p.9)—this, in an industry that portents to be “transparent” (as Zalik aptly illustrates in her contribution on the industry in Canada, “transparency” is an arena of legitimization to be captured by the industry). Navigating the murk is essential in uncovering the multiple contestations within the production of oil “truths”—from the determination of the toxicity of hydrocarbon molecules, to calculations of remaining
barrels of oil, to the fluctuations of paper oil prices, to the meteorological forecasts of hurricane trajectories.

The chapters that make up *Subterranean Estates* build upon recent reconfigurations of the scholarship on oil and gas, including Timothy Mitchell’s (2011: 2) work on the “apparatus of oil production”. Longstanding debates in the social sciences around the “resource curse” have tended to equate oil with the oil money that is produced through the extraction, refinement, transport, exchange, and consumption of that oil (Mitchell 2011; see also Andrew Apter [2005] on how commodity fetishism conceals the money-generating powers of oil in Nigeria). Rather, according to Mitchell, greater attention to the extraction, refinement, etc. of oil generates novel understandings of its changing material and political powers, including “how a particular set of relations [has been] engineered among oil, violence, finance, expertise and democracy” as well as other political systems (Mitchell 2011: 428; on the varied influence of these relations for bolstering other political systems, see Bebbington 2009; Coronil 1997; Soremekum 2011; Strønen 2012; Watts 2001, 2004 as well as Yessenova’s chapter here). The contributors to *Subterranean Estates* respond with precisely this focus on rendering intelligible the assemblages of oil and gas (see Watts’ chapter, in particular): the hard and soft infrastructures, the actors, the networks, the flows, the representations, the images, the films, the archives, the regulatory mechanisms, the price dynamics, the competing sciences and expertise, the technopolitics, the social lives, the futures, the prognostics, the transparency initiatives, and more, of oil and gas. The editors explain that “rather than dwell in fetish…while an entire infrastructure is built, maintained, and defended around
us”, this edited collection seeks to account for “the natural, material, symbolic, political, [and] spectacular in the contemporary world of oil and gas” (p.25).

Readers will note a meticulous focus on revealing, demystifying or engaging anew those features of the substance and the industry that have remained mostly out of the purview of examination: the material properties and viscosity of oil (see Hitchcock’s chapter); the chemical compositions of hydrocarbon molecules (Sawyer’s); the socializations and figurations of crude oil price fluctuations (Guyer’s); the financial computations, mobilities of paper barrels, and convertabilities of oil-as-carbon through carbon trading (chapters by Hannah Knox, Wylie and Watts); the speculative futures, prognostics, spot markets, and hurricane derivatives (chapters by Leigh Johnson and Mandana Limbert); the quantity of barrels spilled, platforms destroyed, and drilling units set adrift from hurricanes (Watts again); the depths and modes of extraction (Appel’s) and the varied cultural relations of oil and gas (chapters by Douglas Rogers, Elizabeth Gelber, Johnson and Limbert). The renewed engagement with oil materialities reveals important aspects of the everyday life of a resource and an industry that is as convoluted as it is complicated, powerful, destructive, ubiquitous and ambiguous.

Building upon previous work (Sawyer 2003), Sawyer’s examination of the politics and contestations of the science of hydrocarbon toxicity in the 2003 class action lawsuit (filed on behalf of 30,000 people) against the Chevron Corporation in the Ecuadorian Amazon illustrates some of the tensions in the fissures of the “epistemic murk” surrounding oil. She traces the inherent complexities of the compound itself, exposing the difficulty of establishing a “matrix of legibility” through which oil toxicity is materialized and demonstrated (Sawyer, p.136). While both Chevron and the plaintiffs
agreed on the presence of crude oil in the environment, there was neither consensus that this oil contamination was detrimental to humans nor agreement on the appropriateness of the mechanisms through which to measure and assess oil contamination. In fact, Sawyer reveals, the majority of hydrocarbon compounds have never been scientifically analyzed, let alone studied over time to determine their changes when released into the environment. Moreover, while there have been some studies on the long-term exposure of fish to crude oil, there has been little done on the consequences of human exposure over decades (the oil contamination in question in Ecuador occurred 30 years prior to the filing of the lawsuit). While these limitations would perhaps defang the plaintiffs’ case in the legal context of other countries like the United States, in Ecuador, the judge ruled that “where an activity raises threats of harm to the environment or human health, precautionary measures should be taken even if cause and effect relationships are not determined scientifically”, and fined the company US$8.646 billion (Sawyer, p.144). What the chapter does not relate is that although the judge ruled in the plaintiffs’ favor, Chevron has tied the case up in a series of subsequent legal actions, including filing fraud and embezzlement charges against environmental activists and plaintiffs in US courts as well as a freedom of information ruling released the extra footage from the 2009 documentary film, *Crude*.

Wylie (p.111) analyzes the US under the rubric of a “petro-state” (and Watts and Zalik similarly look at the North American context through this lens). Drawing on Foucault’s notion of security, she describes an alignment between science and technologies—including statistics, mapping, and databases—that work to secure and protect oil field service companies. More particularly, she shows how intellectual property rights
within hydraulic fracturing and industry-science relations, through the apparatus of the state, are creating a new form of “petro-violence”, one in which “widespread public health threats from chemicals…are made structurally impossible to monitor” (Wylie, p.109). In 2004, fracking was exempted from the Safe Drinking Water Act after considerable lobbying. More insidious was the industry’s “subtle work” of influencing the science-based regulatory processes of the Environmental Protection Agency. These uncertainties in oil knowledge–this “epistemic murk”–have tended to be profitable for oil companies, so much so that the promotion of doubt (or the “manufacturing of uncertainty”) is a prevalent corporate operating procedure, eliciting the proliferation of “produce defense” consulting firms. The ability to manufacture uncertainty to deflect criticism has been an intrinsic constituent of the durability of what is a gravely destructive industry. Of course, uncertainty has been profitable for other industries, as well, among them the industrial producers of asbestos, benzene, beryllium, chromium, diesel exhaust, lead, plastics, tobacco, genetically modified seeds and pharmaceutical drugs (see Michaels 2006). Stuart Kirsch (2014:127) argues that the widespread corporate management of scientific technologies and claims—including a strategic manipulation of time in order to prolong profit-making during an interim of manufactured uncertainty—“suggest[s] that the problems associated with corporate science may be intrinsic to contemporary capitalism rather than restricted to particular firms or industries”.

To better understand the image and representational worlds manufactured by the oil industry, in his chapter Andrew Barry considers the politics, materialization, intent, and constitution of the internet-available “oil archive”. The “oil archive” includes all of
the documents, films, pamphlets, reports, advertisements, etc. produced by the oil
industry (and mostly, but not entirely, available online). According to Barry, the archive
can be read as a “political actor” that can indicate corporate commitments to ethical
values (Mason provides an alternate understanding of some of the oil archive—including
“the printed brochure, newspaper article, and gossip column” [p.334]–which he argues
acts as a sort of supernatural “epistemological glue” that unites actors within Big Oil on
the basis of their shared myths). While this archive of industry-produced materials
functions as a legitimating devise with the purpose of “overwhelming possible criticisms”
with a deluge of documents nearly impossible to synthesize, the power of the archive is
always shifting. Nonetheless, Barry (p.107) notes, this archive is “marked by systemic
absences”. While Barry (2013) has argued elsewhere that the narratives offered up within
the “oil archive” create new spaces for political contestations, Omolade Adunbi (2015: 2-3,
emphasis added), for example, argues to the contrary in the case of Nigeria, where the
industry’s glossy self-representations:

not only…conceal the violence that has pervaded [the region] as a result of the
struggle over control of oil and resources–the violence that oil pipelines, flow
stations, and oil wells inflict on the land as well as the violence orchestrated by
militants in an attempt to reclaim lands and livelihoods. The duality of violence
creates a rupture that enables multiple actors–NGOs, the state, insurgency
movements, and community members–to create spaces that legitimate the
violence.
The silences in the mega-narratives of the industry are also annotated by Limbert, who characterizes the annual self-reports produced by oil companies as “highly partial” and notes the politics of data appearing in easy-to-read language one year and then falling out of the report all together (subsequent to criticisms) in the next year. Indeed, she shows how in Oman, claims from industry and state representatives regarding the imminent depletion of oil (including the ever-shifting categories used to signify this depletion) have triggered a deep skepticism and even cynicism in ordinary people. She explains (p.341), “recent interventions to enhance accuracy and science in oil forecasting have been accompanied…by greater disbelief in state and oil-company transparency and greater expectations of a hidden truth”.

Mona Damluji looks at another sort of oil archive, in this case the early films—which she calls “petrofilms”—produced by the industry. She shows how company-produced documentaries saturated an oil narrative with the promises of wealth, modernization, and civilization. The silent, three-hour film produced by Shell, *Bataafsche Petroleum Film*, for example, which premiered in the Hague for government and press in 1924, showcased the company’s “concern with the wholesome aspects of civilized life, nature, and art” (Damluji, p.152). During the 1950s, Shell produced an incredible 130 films, reaching an estimated 8.5 million people worldwide (Damluji, p.155). It is unlikely that the modern “oil archives” (even if available online) have this reach and impact. In fact, incongruously enough given today’s context, Shell’s unprecedented film output created “the first ‘genuine’ international documentary film movement” (quoted in Damluji, p.155). The documentary film movement—what we think of today as instrumental in holding corporations and governments accountable to wider
publics by revealing untold truths about injustice–arose in the course of a nascent partnership between the “technologies of fuel and film” that sought to promote the story of fuel as “the promise of postcolonial modernity” (Damluji, p.148).

These banal self-representations and the pseudo-concessions of the industry do not reveal the disaster, catastrophe, and violence embedded within the structures of relations, flows, and interactions that make possible the vast and divergent oil accumulations across time and space. To effectively address “oil’s cynosural politics” (that is to say, the politics and frameworks that guide and inform the politics of oil), the subterranean and above-ground relations within all phases of the hydrocarbon commodity chain must be evacuated. This is reflected in the chapters on the aggressive relations embedded in petrol contract-agreement-making (Yessenova), the extractive processes (Rebecca Golden Timsar; Watts; Wylie) and the uneven distributions of wealth and insecurity in “petro-states” (Golden Timsar; Huber). Discussions of the mutual embeddedness of forms of violence with oil extractions can be had without reducing our frameworks to commodity determinism or metonym–indeed Watts’ larger scholarship on the political ecologies of fossil-fuel capitalism has made this abundantly clear.

Nowhere is accumulation through (a complex nexus of) violence and disaster more apparent than in the chapters from Golden Timsar, Watts and Johnson. Rebecca Golden Timsar (p.72, 81), for example, describes the social mechanisms that young Ijaw men in the Niger Delta draw upon in order to “navigate a violent, alienating, lived experience” of the Nigerian “oil frontier”. She writes,
There is an unseen additive in the automobile tanks of Nigeria’s oil trading partners such as the United States—namely, young Ijaw men’s lives. In a globally connected world, there is a price to pay for insatiable desires for consumption, locally, nationally, and internationally. (p.73)

She traces the ways in which the intricacies of these local geographies provide the ground for the forging of “productive agency and a sense of community—[a sense of being] torn together—in a flimsy world” (Golden Timsar, p.89). Men’s lives are not, of course, the only “unseen additive” of oil extraction in, and export from, Nigeria. Oluwatoyin Oluwaniyi’s (2011: 150) work in Okerenokoko and Kokodiagbene (both Ijaw communities) reveals the struggles of women against “the state-oil partnership as well as oppressive gender relations”. Sokari Ekine’s (2000, 2008) scholarship on women’s resistances in the Niger Delta provides a powerful gendered critique to the militarization that has accompanied oil extraction in the region, including the ways in which elderly women are particularly vulnerable to “petro-violence”.

Watts demonstrates how disasters like the Deepwater Horizon catastrophe—which, over 87 long days, released a quantity of crude oil sufficient to suffocate 3,850 square miles of the Earth’s surface (p.213)—are far from “accidental”. These catastrophic events are quite within the norm of expectation and predictability, Watts explains, writing that they are in fact “overdetermined by…[a] vast accumulation of insecurity and risk…[They are] a social product of the manufacture, on a larger historical landscape of reckless frontier development, of catastrophic risks rooted in the ‘systemic failures’ of neoliberal capitalism” (p.230).
The subsequent maneuvering by corporations to further profit from those very climate volatilities and fluctuations exacerbates this reality of corporate-induced natural disasters. Leigh Johnson (p.196), for example, explains that the devastation of the 2005 and 2008 hurricane seasons in the Gulf of Mexico “motivated the development of…a number of new financial instruments and meteorological forecasts that rendered…weather risks into tradable instruments for hedging and speculation”. There is enormous profitability in predicting and managing weather and atmospheric volatilities of the “near future”. Despite the real-world environmental and human consequences of hurricanes,

[a]s the Gulf’s escalating vulnerability to climate change brings certain energy and weather derivatives closer to embodying ‘perfect hedges’ for the Gulf oil complex, the very fact that the landscape is growing ever more environmentally precarious [due to accelerating climate change] could make it increasingly financially profitable. (p.197)

First, disaster is precipitated by the oil industry through dangerous extractive practices and carbon emissions, which accelerates anthropogenic climate change and increases weather volatility. Second, as Naomi Klein’s (2007) work shows, capitalist forces maneuver these disasters (and potential disasters in the form of “near futures”) to facilitate continued expansion and to ensure continued profit.

The profitability of the climate crisis and hurricanes reflects the financialization (alongside deregulation) of the industry since the 1980s. This financialization is demonstrated through the fact that, on a given day, “paper oil trades exceed wet oil trades
by 15-20 times” (Watts, p.232, emphasis added). Volatility affects the industry’s price dynamics, as well, as Guyer’s account of the discrepancies in the petroleum industry’s explanations for price fluctuations and pricing models evinces. I read Guyer’s contribution in mid-January 2016, at the same time that a spokesperson for the International Energy Agency speculated that the “oil market could drown in oversupply” and the price per barrel was rapidly declining. Just one week earlier, we experienced a several day shortage of oil in Jimma, the town where I live in Ethiopia. The shortage had resulted in taxi and bajaj drivers waiting in line for hours at the pump (see Guyer, this volume, for an interesting account of the localized management of a supply shortage at a Nigerian petrol station)–this, despite the fact that, as Huber shows, the history of oil price fluctuation reveals the management of surplus rather than scarcity.

These sorts of seeming conundrums–between falling international prices, international surplus, and local shortages–occur, Guyer explains (p.247), because oil pricing depends upon “multiple models all working out their own ways, coordinated with difficulty”. Pricing is a “deeply socialized and figured” product of the interplay between futures projections (including hunches and guesses) of assets based on wide-ranging variables in local and global markets (p.250). In fact, pricing is highly uncoordinated and uneven, with enormous geographical and temporal fluctuation: at the pump, gasoline/petrol can be as expensive as US$9.89 per gallon in Turkey (with the highest prices in the global market) to as cheap as US$0.06 per gallon in Venezuela (with the lowest prices), “although”, Guyer writes (p.238), “all 60 ranked countries presumably participate in the same global market”. While regional and national public figures posit varied explanations for these differences in price (including subsidies, embargoes,
political turmoil, elections, violence, climate-provoked disasters, etc.), profit tends not to figure as a causality of price shifts although it surely is a leading motivator for fluctuation.

At the same time, the financialization (and hence profitability) of risk has triggered the influx of new instruments and technologies for forecasting (with greater precision) the pathway and time-span of hurricanes. This desire for greater and greater projections of meteorological events has reinforced relations between the oil industry and the academy. Academic meteorological centers, Johnson explains, sometimes house enormously profitable private forecasting groups that consult with and/or are funded by Big Oil. At one university, a private forecasting group offered

…a proprietary seven-day forecast for which they claimed track accuracy within 100 miles. The National Hurricane Center’s forecast, by comparison, only claimed 100-mile track accuracy out to three days, beyond which the area in the “cone of uncertainty” increased dramatically. (Johnson, p.205)

At the same time that the industry works vigorously to manufacture uncertainty regarding the scientific research of oil toxicity or anthropogenic climate change (see Sawyer’s and Knox’s chapters), millions of dollars is pumped into scientific research on technologies to drill deeper, farther, faster, and for longer. Echoing the doctrine within military counterinsurgency on “total information awareness” (see Campbell and Murrey 2014), the desire within the industry for “perfect information”–defined by Mia de Kuijper (business strategist, dean of the Duisenberg School of Finance in Amsterdam, and former
Royal Dutch Shell executive), as “the immediate availability of, and connection to, all existing information regarding anything and anybody, at extremely low costs” (quoted in Zalik, p.360)—is a hegemonic strategy intended to ensure the industry maintains its information and technical dominance.

Writing of “university capture” by the fossil fuel industry in the United States, Bret Gustafson (2012: 313) describes expert enclaves of “fossil men” as dominating the creation, circulation, and policing of “fossil knowledge”. He defines this particular sort of knowledge as the “representations of truth, sentiment, and expertise produced by, or in relation to, the oil, gas and coal industries”. In his chapter, Mason (p.326, 328) provides an alternative conceptualization of Gustafson’s “fossil men” by looking at the energies and motivations (the “promise and disappointment cycle”) produced through face-to-face meetings and other convergences between the “total social network of people and their wishes”, which he calls “events collectives”. Mason explains that events collectives are “agenda-setting” socio-temporal collectives that orient expectation and are characterized by “talking simultaneously, getting excited, and making the unreal into a probability by putting wishes into worlds” (p.327). Mason’s contribution is important for identifying the emotionalities (promises and disappointments) and community-building within exchanges by policy makers, government officials, representatives of strategic knowledge firms and industry representatives (“fossil men”). For example, his examination shows an unrelenting optimism created during the specific time-space of the “event collective”, in spite of the considerable technological impracticalities of extraction in what is called the “stretch” (seasonal ice) and “extreme” (year-round ice), as opposed to the “workable” (no ice), Arctic.
Given that “the annals of oil…are an uninterrupted chronicle of naked aggression and the violent law of the corporate frontier” (p.16), the “event collective”, when addressed within a larger examination of the materialities, politics and powers of “oil assemblages” emerges as less banal than the title might immediately suggest. These convergences, while perhaps invigorating for the “expert” participant, are nonetheless exclusive and exclusionary bubbles of gate-keeping, truth-making, and (if successful) world-racking. For example, Gustafson’s retelling of a university event on “America’s Energy Future”, including Arch Coal, Peabody Energy, and Ameren UE (a regional electricity company dependent on coal-burning), demonstrates a small fraction of the ideological gate-keeping within “expert” conclaves. Mason (p.337) concludes that, for the event collective that arose (and eventually fell) around the construction of an Alaskan gas pipeline, “the organizing principle that bound these events into a collective might well be…a stupidity…drenched with yearning”. In my reading, I wondered about the instances in which the event collective proceeds with the extraction project despite the enormous associated risks. Indeed, Paul Hirt (1994) writes of a “conspiracy of optimism” that is created through mining company exchanges, in which company employees persistently refuse to acknowledge the socio-environmental damages of mining activities, even in the presence of overwhelming evidence. Surely the continued ideological and material commitment to modernization through hydrocarbon extraction—despite knowledge of its attendant disasters, violence(s) and risks—is evidence of a larger “conspiracy of optimism” within capitalist dogma and capitalist convergences.

There are some disconnects between the “oil assemblages” presented from one chapter to another, sometimes usefully indicating the differences within a contradictory
globalized system. I found that some of these gaps facilitated reflection on the convergences and conjunctions between the chapters and their entanglements with wider political, social and ecological realities of oil and gas. In these gaps and disconnects, the reader might make useful connections across and between the chapters, as I endeavored to illustrate through the multiple interpretations of the “oil archive” above.

Elsewhere, Ali Kadri (2014: 3) explains that “to exclude violence, power, and contradictions in general from the hypotheses of the mainstream is to exclude reality itself”. So that while Watts reminds us of the militarization of oil concessions, Appel critiques the discourse of modularization or standardization against a backdrop of highly unequal and racialized labor operations in off-shore work. Guyer’s analysis seems checkered with inequalities that remain unnamed and I found it useful to situate the chapter within the intention of the book to consider oil assemblages as polymorphic and to address them from multiple angles. Guyer (p.247) briefly recounts the World Bank’s involvement in the Chad-Cameroon oil pipeline, writing that the “World Bank project was terminated in 2009, on the grounds that the government’s response breached the commitments of the project”. This explanation does not mention the timing of the Bank’s termination, which occurred alongside an agreement with the government of Chad to repay $140 million in project loans to the Bank ahead of schedule. The timing of this agreement throws into contest the Bank’s claims that the pipeline was engineered in a way that could ensure social welfare, as opposed to being engineered in a way that ensured returns for investors (for a thorough retelling of the interplays between ExxonMobil, the World Bank, and the government of Chad, see Coll 2013). Kirsch’s (2014:232) recent assertion of the need for a grounded political perspective in scholarship
on the mining industry (one in which we reposition dis/belief in the social sciences) is particularly insightful here. He writes:

Studying the mining industry requires a healthy dose of skepticism and perhaps even a measure of cynicism, especially in relation to the promotion of the virtuous discourses of sustainability and corporate responsibility. In contrast to the anthropological tradition of suspending one’s disbelief when conducting ethnographic research, I have declined to give the mining industry the benefit of the doubt: its track record demands a higher standard of proof.

A similar argument can be made for scholars working on the oil and gas industry. Indeed, although this argument is not made in Subterranean Estates, part of the project of uncovering the “epistemic murk” of oil and gas lifeworlds might be asserting an informed skepticism of industry claims even (or perhaps especially) when we cannot access information due to corporate secrecy laws that privilege “client information” (see especially the chapter by Zalik).

If read in order, Mason’s chapter follows on the heels of Knox’s exploration of carbon footprints and convertibility. While Mason describes an inherent component of the social power of oil “event collectives” as the members’ insistence on face-to-face exchanges, this can be enacted only through extensive and nearly continuous cycles of air and road travel. Knox reminds us that “flying on an airplane is about the worst single thing you can do as an individual to emit carbon” (p.320). The multifaceted venality of these “events collectives”–gatherings of powerful people to discuss, negotiate, and
engineer potential extractive projects— are made apparent as the seeming ubiquity of oil is again emphasized. Simultaneously, Huber (p.32) describes a protest in Washington, D.C. against the Keystone pipeline, during which activists were discredited merely for having driven to the protest. He explains that in a “neoliberal era where politics is equated with what we do and consume it appears as if resistance is only possible through the impossible task of living an oil-free life” (p.32).

Watts’ definition of the term “oil assemblages” stresses the multiplicity and complexity of actors, actions, and relations within the “vast institutional fields of oil and gas operations” (p.221). Unlike his earlier terminologies (including “petro-violence” and “petro-state”), “oil assemblages” does not seem to immediately assist in directing our focus within this enormously complicated and entangled landscape of oil. Other scholarship on oil extraction has generated a substantial lexicon for a range of phenomenon and transformations associated with the hydrocarbon commodity chain. This petro-specific terminology includes: Big Oil, oil frontiers, oil archive, oil assemblage, oil epiphany, oil ontology, oil science, oil spectacle, oil talk, oil-critique, fossil men, fossil knowledge, petro-violence, petro-capitalism, petro-state, petro-societies, petro-money, petro-resistance, petro-magic, petro-imagery, petro-film, petro-fiction and probably many others. Do all of these terms reinforce the very idea of the “oil ontology” and (somehow particular or discrete) “oil worlds”? Do they provide the conceptual tools to challenge petro-dominance? So we critique the metonyms of oil-as-violence, oil-as-curse, oil-as-money—what about oil-as-world? Might we step back for a moment and consider: is everything related to oil somehow particular to oil (what about other extractive-oriented economies, among them fur, salt, timber, and sulfur or other
global capitalist hegemons characterized by monopoly and subterfuge, including the agro-business industry or global biotech and pharmaceutical companies)? How does this rendering occur? Have we (scholars) also given oil an ontological power as the/a petro-world unto itself?

Attending to oil as a patterned assemblage of spatially and temporally specific constituents (rather than as an unfolding teleology) offers a reorientation for scholarship on oil and gas that challenges some of the illusions of coherence within Big Oil. Readers of *Antipode* might yet be left wanting more attention to “the political value of concepts such as assemblage theory” (Russell et al. 2011: 577). In the pages of *City*, Bertie Russell and colleagues go on to assert that:

> It is no longer enough to further expound on the complexities of what we think and feel we are up against. Our academic-political work must provide resources for us all to push against, antagonize, and go beyond the present condition. We simply want to ask: what is assemblage theory for? What can it do to help us out of this capitalist present?

These scholars outline the need for collaborations and collectivities that assemble and offer alternative organizations of social and political relationships (see also McFarlane [2011: 213], Rankin [2011] and Saldanha [2012] for accountings of the political urgency to move beyond debunking or criticizing to “assembling”–“offer[ing new] arenas in which to gather”). Oil assemblages are helpful to understanding contemporary (fossil fuel) capitalism but the task of putting oil and gas assemblages to work is less apparent in
the book—in fact, it seems absent. It is not oil itself that requires changing as we pursue more just socio-economic and political relations. Rather, “it is the criterion that organises the relationships by which societies reproduce themselves by commodifying the basic goods [like oil] that are required to sustain life that has to change” (Kadri 2014: 2). So, how can the oil assemblage help us to go beyond our present, as Russelll and colleagues insist?

We have no survival need fulfilled by oil, as Hitchcock and Huber remind us in Subterranean Estates. Oil is better characterized as an addiction than a need—but an unevenly racialized global-social addition, with an ideological, infrastructural, and relational assemblage characterized by deep inequalities that reflect a history of colonialism and a present of militarism and financialization (see Watts’ photo essay). In our investigations into these murky oil assemblages—and as we wade through the “epistemic murk” of oil and gas—we should not lose track of that which is too often much more difficult to track: what Paul Farmer (2004) calls the “body count” of capitalist structural violence (see also Nixon [2011] on the slowness of violence that unfolds over decades, so much so that tracing the cause and effect informing ecological destruction is an inherently challenging task).

We can calculate the cumulative kilometers of pipelines stretching across our shared planet and offer the chemical makeup of hydrocarbon molecules (and, in so doing, remove some of the “murk” that inhibits our view of “oil assemblages”). The number of villages and people impacted and the sorts of human (physical, psychological, spiritual, emotional, intergenerational) and ecological impacts felt as a result of this globalized infrastructure of pipelines alongside, and compounded by, other capitalist structural
violence(s), remain more challenging to conclusively determine, measure, standardize, prove, or “de-murk”. Alongside the industry’s oil archive is an extensive scholarly literature and activist archive on gas and oil, much of it critical of the industry—(indeed, Szeman [2010:33] notes that his automatic email alerts for articles on oil resulted in as many as 50 different articles a week on the topic between 2008 and 2010).

Zalik (p.364) describes the “kind of epistemological battle” currently underway to establish (some sort of) “truth” regarding the life worlds of oil and gas; *Subterranean Estates* is an important contribution to this “epistemological battle” and it will be a useful resource for us as we continue to address and critique the assemblages of oil and gas. A nurse’s loss of smell, and even liver, heart and respiratory failure, after exposure to unknown chemicals inserted into ground water during fracking (Wylie) and the rise of embodied occult practices to protect young men’s bodies from “petro-violence” in the Niger Delta (Golden Timsar) reveal that there is much that is murky in this “world” of oil and gas.

References


*Amber Murrey
Development Studies*