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How to Know about Oil: Energy Epistemologies and Political Futures

IMRE SZEMAN

As a contribution to the growing exploration of oil and energy in the humanities, the author examines what we might learn from three attempts to probe *how* we know oil—that is, the complex, myriad ways in which we try to name and narrate oil's social significance—in order to understand better the opportunities and challenges of making oil and energy a more conceptually powerful part of our social and cultural understandings. The first of the energy epistemologies the author examines, Timothy Mitchell's *Carbon Democracy* (2011), reframes the history of left politics in relation to shifts in dominant forms of energy. The second, Edward Burtynsky's photo-series *Oil* (2011), identifies the deep social significance of oil through experiments in visual form. The third example of knowing oil and energy is the ongoing struggle over the representation of the Alberta oil sands in public and political debate and discussion. The intent of examining these three distinct attempts to know oil as an essential component of social, cultural, and political life is to see what lessons such energy epistemologies might have for a left politics committed to an energy transition that would both ameliorate environmental concerns and enable greater social justice.

En guise de contribution à l'exploration croissante du pétrole et de l'énergie dans les sciences humaines, l'auteur examine ce que nous pourrions apprendre de trois tentatives pour sonder *comment* nous connaissons le pétrole, c'est-à-dire les nombreuses façons complexes que nous utilisons pour essayer de nommer et de raconter l'importance sociale du pétrole en vue de mieux comprendre les possibilités et les défis qui se posent pour faire du pétrole et de l'énergie une partie conceptuellement plus forte de nos connaissances sociales et culturelles. La première des épistémologies du concept d'énergie examinées par l'auteur – *La démocratie à l'âge du carbone* de Timothy Mitchell (2011) – reformule l'histoire de la politique de gauche par rapport à l'évolution des formes dominantes de l'énergie. La deuxième – la photo-série sur le pétrole d'Edward Burtynsky (2011) – cerne la signification sociale profonde du pétrole grâce à des expériences sous forme visuelle. Le troisième exemple de la connaissance du pétrole et de l'énergie est la lutte en cours sur la représentation des sables bitumineux de l'Alberta dans les débats et les discussions publics et politiques. Le but de l'examen de ces trois tentatives distinctes pour connaître le pétrole comme une composante essentielle de la vie sociale, culturelle et politique est de voir quelles leçons ces épistémologies du concept d'énergie pourraient avoir pour une politique de gauche qui s'est engagée à une transition énergétique qui permettrait à la fois d'atténuer les préoccupations environnementales et de favoriser une plus grande justice sociale.

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*H*ow to know about oil: Is *how* the right question through which to frame an inquiry into the contemporary significance of oil? Is an epistemic question the right one? After all, do we not already know everything we need to about it—that this substance on which we depend for much of our energy generates geopolitical misadventures, environmental destruction, and (for some) massive profits?¹ Do we not already know that, because it is of necessity a limited resource, our dependence on it constitutes something like a civilizational category mistake—one that we are unlikely to rectify, not because we cannot identify the error, but because we are people who live in societies so saturated with the substance that we cannot imagine doing without it?² What could we possibly learn by thinking about how we know oil, as opposed to thinking about the ways in which we have lived with it and what we need to do to live without it?

There are two things implied in the “how” of the title of this essay. The first aims to draw attention to the multiple ways in which oil is framed as both problem and possibility, implying in turn multiple forms of being in relation to it. Oil is a physical substance—a thing identified by a concrete noun (like tree or chair) rather than an idea named by an abstract one (such as belief or identity). Moreover, condensed figures such as the smog-spewing freeway system to which oil’s protean energetic utility has given birth stand as stark examples of its physical impact on the planet and our societies. Even so, oil only has such significance as it does for us as a result of the cultural narratives that shape our understanding of it. Despite being a concrete thing, oil animates and enables all manner of abstract categories, including freedom, mobility, growth, entrepreneurship, and the future in an essential way—an insight that recent cultural criticism is beginning to use to interrogate the energy-demanding structures and categories of modernity.

“How” is also meant to point to the fact that making oil part of our knowing—making it a key component of our investigations on whatever topic—changes how and what we know. Oil (and indeed, energy more generally) has almost always been seen as an external input into our socio-cultural systems and histories—that is, as a material resource squeezed into a social form that pre-exists it, rather than the other way around. We do not see it as giving shape to the social life that it fuels. It is thus that we imagine that life as we know it can continue along in its absence or disappearance, simply through the introduction of new, alternative sources of energy. With enough political will and technological innovation, we have a strong tendency to believe that wind, solar, geothermal, and nuclear energy could generate the kilojoules we have come to expect from fossil fuels, and do so in a way that would change our energy inputs while retaining the quality and form of life that many (though far from all) now enjoy.³

What if oil is *fundamental* to the societies we have now? What if it shapes them in every possible way and at every possible level, from the scale of our populations to the nature of our built infrastructure, from the objects we have ready to hand to our agricultural and food systems, and from the possibility of movement and travel to *expectations* of the capacity to move and interact, not to mention the plastics used to encase our smartphones and other high-tech devices? How we know about oil at the present moment tends to undervalue its impact and significance as a condition of possibility of modernity and of the full development of capitalism. If we insist on understanding modernity as an *oil* modernity and of capitalism as an *oil* capitalism, this cannot help but force us to reconsider how we understand both, as well as the ways in which left politics have been shaped over the past two centuries in response to the conditions produced by modern capitalism. In “The Fragment on Machines” in *The Grundrisse*, Karl Marx famously imagines a world in which technology has advanced to such a point that human labour is no longer required (1993, 704-6)—a fantasy of a labourless world that has animated some aspects of contemporary left thought as well. Even were we to achieve a world without work, the machines would still need oil to operate them, and the social systems and infrastructures inhabited by the labourers now free to do what they want (suburbs, highways, and the entertainment systems organized around them) would be ones that were brought into existence by oil and would need it to make it all operate.

As a contribution to the growing literature on oil and energy in the humanities—a flood of work that includes such recent texts as Matthew Huber’s *Lifeblood: Oil, Freedom, and the Forces of Capital* (2013) and Stephanie LeMenager’s *Living Oil: Petroleum and Culture in the American Century* (2013)—I want to explore what we might learn from three attempts to probe the consequences of how we know oil and how we might make oil a more conceptually powerful part of our knowing. The first of these attempts constitutes a reframing of the history of left politics in relation to changes in dominant forms of energy, specifically as this is explored in Timothy Mitchell’s *Carbon Democracy: Political Power in the Age of Oil* (2011). The second—Edward Burtynsky’s well-known and widely exhibited photo-series, *Oil* (2011)—narrates and names the social significance of oil through experiments in visual form. Finally, I will consider the struggle over the representation of the Alberta oil sands in public and political debate and discussion, looking here, too, at what happens when oil circulates as a contested cultural narrative as opposed to being merely a physical entity about which there is little dispute or debate.

I recognize that the three cases I have chosen to look at how oil is made part of our knowing are not of the same kind, nor do they operate at the same social level. An academic text, a photo-exhibit, and an ongoing political and media campaign about oil all

work in different registers, involve distinct (if sometimes overlapping) communities, and have diverse ends in mind. Even so, I think that there is value to exploring these distinct interventions into our energy epistemologies. I want to do so to see what these attempts to know oil differently than we had known it—that is, as an essential component of social, cultural, and political form, and not just the caloric stuff that happened to propel modernity—might tell us about a politics appropriate to our petrocultures.

We stand at a moment when there is broad understanding and awareness of the need to make a transition from a global society based around non-renewable forms of energy to renewables. One of the reasons that there have been interventions into how we know oil and energy from multiple directions—history in the case of Mitchell, the visual in Burtynsky, and (broadly speaking) the political with respect to the oil sands—is that public knowledge about the environmental repercussions of oil usage, or of the consequences of its necessarily limited supply (however many years we may still be away from peak oil, a peak will come), seem to have generated limited political and social response, and nothing on the scale or with the speed required. Vaclav Smil has pointed out that “lessons of the past energy transitions may not be particularly useful for appraising and handicapping the coming energy transition because it will be exceedingly difficult to restructure the modern high-energy industrial and postindustrial civilization on the basis of non-fossil—that is, overwhelmingly renewable—fuels and flows” (2010, 105). I argue that these attempts to narrate new ways to know oil have lessons for a left politics committed to an energy transition that would both ameliorate environmental concerns and enable greater social justice.

The politics, presumptions, and implications of each of these ways of knowing oil—knowing it in order to understand just what it has meant for us moderns—varies, of course, and this is partly the point. Taken together, however, they point to important barriers to action and thresholds of possibility that we need to consider as we work against the overwhelming media and political promotion of oil as a benign force for good, to say nothing of the weight of quotidian comfort of our societies. These various *how*s draw attention to the compelling political openings that emerge once we accept and understand the ways that oil and energy animate our cultural narratives; they point, too, to the very real challenges and difficulties of trying to produce a different way of being in relation to a source of energy that has produced the societies we inhabit and has made us the subjects we are.

Alternative Histories

It is no exaggeration to suggest that the twentieth century would not have been the same without oil—a source of energy easy to store and transport, with a huge energy output per unit of fuel, and a source that forms the basis of all manner of other substances without which it is hard to imagine life on the planet today. Histories of the century that are alert to the significance of energy inevitably provide a vision of the recent past in which the presence of oil is amongst the central forces shaping human life—if not *the* single ur-force to which all other narratives can be connected. For example, William McNeill's environmental history of the twentieth century, *Something New under the Sun* (2000), quickly identifies the capacities, technologies, and infrastructures enabled by fossil fuels to be the single most significant factor in the massive expansion of population over the century, which in turn generates the even larger increases in water consumption, carbon dioxide production, and more. The figures are staggering: a four-fold increase in world population, a 17-fold increase in carbon dioxide and a 40-fold increase in industrial output—just to begin with (McNeill 2000).

Daniel Yergin's Pulitzer Prize-winning commodity biography, *The Prize: The Epic Quest for Oil, Money and Power* (2008), also places oil at the heart of human activity since its discovery for industrial uses in the late nineteenth century in Pennsylvania. One could pick almost any aspect of Yergin's book to make the case for the historical significance of oil, especially for the shape of economic and geopolitical history. In Yergin's account, for instance, much of what passes for military strategy in the Second World War can be reduced to the ceaseless appetite of mechanized armies for oil. Japan and Germany began from positions of energy weakness: no oil on native soil. As a result, the drive of the Germans to Russia and North Africa, and of Japan to Southeast Asia, was motivated by the need for energy to keep their militaries and economies on the move, as much as they were by popular-national narratives gone terribly awry. Of Pearl Harbor, Yergin writes that "the primary target of this huge campaign remained the oil fields of the East Indies" (2008, 326); the attack on the US was carried out in order to protect the Japanese flank and to safeguard tanker routes to the home island from Borneo and Sumatra. At their worst, such oil histories can be reductive in a bad sense, seeing crude as always and everywhere the disease that generates the symptom called history, with its attendant traumas, dislocations, and crises. At the same time, an attention to the importance of oil contributes an essential and all-too-often-missing element of our social and political narratives—the way in which energy, objects, and infrastructure exert demands on and shape human actions and decisions, giving form to the character and nature of political, social, and cultural systems.⁴

Timothy Mitchell's *Carbon Democracy* offers a powerful renarration of the politics of the petrocarbon era that is alert in just this way to the material significance of oil in shaping capacity and possibility, from the form taken by local struggles over oil to the shape of twentieth-century geopolitical conflict. Mitchell's book is not about democracy and oil, but about democracy *as* oil; Mitchell's aim is to show that "carbon-energy and modern democratic politics were tied intricately together" (2011, 5). The democracy to which he refers is "a mode of governing populations that employs popular consent as a means of limiting claims for greater equality and justice by dividing up the common world" (9). By reading modern democracy *as* oil—as made possible and enabled by oil in a fundamental, material way—Mitchell creates an alternative history that produces all manner of compelling conceptual openings for left and environmental politics.

There are two points from Mitchell's book to which I want to draw particular attention. The first is his remarkable account of the political effects of the emergence of the use of coal as a source of energy on a broad scale. One of the social transformations produced by coal was that for the first time the vast majority of people in industrialized countries became dependent on energy produced by others. The production of coal at specific sites across northern Europe that then had to be channelled to other sites along narrow railway corridors, with specialized groups of workers operating in large numbers at both ends, generated the material conditions for a form of political agency that could be asserted through the disruption of energy flow: "The rise of mass democracy is often attributed to the emergence of new forms of political consciousness.... What was missing was not consciousness, not a repertoire of demands, but an effective way of forcing the powerful to listen to those demands" (Mitchell 2011, 21). The ability of workers to disrupt energy flow effectively and immediately through mass strikes or sabotage gave their political demands special force, and led to major gains for workers between the 1880s and the interwar decades, while also supporting the development of workers' consciousness of their social circumstances. For Mitchell, the switch to oil from coal as the primary energy source for the global north from the 1920s onward was a major factor in impeding the demands of labour and constituted the basis for a form of governmentality that managed the struggle for democracy. The production of oil requires fewer workers than coal in relation to the amount of energy produced; labourers remain above ground in the sight of managers; and from the 1920s "60 to 80 percent of world oil production was exported," which made it difficult to affect supply through strikes (37). Mitchell is blunt in his claim: the mass politics that emerged alongside coal was defeated by the rise of fossil-fuel networks that made mass action more difficult, and changed the conditions within which class struggle took place.

The discourse of economics has played a key role in the system of democratic governmentality that Mitchell explores. Here, too, oil plays an essential, if hitherto unrecognized, role. Mitchell argues that the *economy* as an object did not exist in its current form prior to the Second World War. Before that time, the term *economy* referred to a *process* and not a *thing* whose management was to become the central task of governments and of a cohort of specialists who would produce knowledge about it. Nineteenth-century political economy concentrates on the “prudent management of resources applied especially to the resource that had made industrial civilization possible”: that is, to coal (Mitchell 2011, 127). This is an economy understood in terms of limits and scarcity. The shift from coal to oil enables a significant change in how the economy is conceptualized and governed. Nature is now removed from economic calculations. In place of natural resources and energy flows, economics becomes the measurement of money, and the *economy* transforms into a measurement of “the sum of all the moments at which money changed hands” (136). Mitchell argues that “the conceptualisation of the economy as a process of monetary circulation defined the main feature of the new object: it could expand without getting physically bigger” (139).

As the dominant energy source of the century—if not always in terms of sheer volume used or energy produced, but the fuel source around which twentieth-century life was configured: city spaces and infrastructures, global trade systems, forms of social experience and expectation (from mobility to individualism), and so on—oil enables the idea of the economy as an object able to grow without limit in two ways.⁵ First, because of its continuous decline in price (adjusted for inflation) over much of the century, the cost of energy was thought to have little bearing on economic activity or decision-making. Energy now appeared virtually free within overall calculations of the economy. Second, the apparent abundance of oil and the ability to move it wherever needed made it possible to treat it as inexhaustible. Mitchell concludes, “Democratic politics developed, thanks to oil, with a particular orientation towards the future: the future was a limitless horizon of growth. This horizon was not some natural reflection of a time of plenty; it was the result of a particular way of organising expert knowledge and its objects, in terms of a novel world called ‘the economy’” (2011, 143).

Left politics on the one hand, the economy on the other—the first impeded by the appearance of oil, the second fuelled by it. Mitchell provides us with a shift in how we know oil that produces new possibilities for how we might act in relation to it. The connection between the apparent limitlessness of energy and our expectations of an economy that must, of necessity, continue to grow at all costs offers insight into the struggles faced by countries after the 2008 market crash. For economist Jeff Rubin, for instance, the difficulty of economic recovery can be put down to a single factor: the high price of oil, which at US \$90-\$100 per barrel is close to 50-fold its average

price during the period of capitalism's great expansionary phase from the 1920s to the 1970s, when energy appeared to be virtually free (Rubin 2012). How to imagine either stable liberal capitalist democracies *or* to consider alternative social formations requires us to consider carefully the role played by energy in shaping both their material realities and social imaginaries—the expectations for expansion and growth that oil has set up, which is proving challenging for the left to conceptualize otherwise in a concrete way in a world with ever-expanding populations and middle-class desires.

As for the politics of street actions and general strikes: while it would be reductive in the extreme to suggest that the switch from coal to oil as a dominant source of energy had long ago eliminated or reduced the efficacy of labour actions, it is worth taking seriously the connection between political action and energy. The difficulty of impeding the operations of capital today in anything like the way that may have been possible at mine sites is clear: major pipelines circumvent political hot spots and/or are buried beneath the ground;⁶ and with the exception of environmental movements that draw attention to the causes and consequences of oil extraction and usage, almost nowhere is left political action organized directly in relation to energy in the way it once was.⁷ While the decision by the global Occupy movement *not* to issue specific demands or to insist on any direct outcomes as a result of their street occupations has been viewed by some analysts as a rejection of the whole of late capitalist democracy and its presumptions, it can also be viewed as the last gasp of a form of protest politics that—understood from the vantage point of oil and energy—has, alas, long been outmoded.⁸

Mitchell's *Carbon Democracy* insists on the significance of oil to political form and possibility; in doing so, in naming just how deeply energy form shapes political form, he appears to rule out some of the forms of concrete action on which the left has traditionally relied to communicate to publics. At the same time, oil fuels the fantasies of limitless expansion in a way that has proved difficult to challenge or counteract, whether or not such growth is sustainable in the long run. How then might one explain or explore the political significance of oil to publics, especially given the need for large-scale, rapid energy transition? Might aesthetics succeed where street protests fail?

Aesthetics and Politics

Near the end of *The Long Emergency*, James Howard Kunstler makes the claim that

the collective imagination of the public cannot process the notion of a non-growth economy, even though the limits to growth are visible all around us in everything from the paved-over suburban landscapes, to the steeply rising gas prices, to played out aquifers, to the death of the Atlantic cod fishery. We are not capable of conceiving another economic way. We are hostages to our own system. (Kunstler 2005, 193)

Such doubts about the capacity for the radical change necessary to produce a new mode of social and economic organization are today all too common. In his groundbreaking 1992 essay “Petrofictions,” Amitav Ghosh argues that one of the reasons for an absence of fictions about oil and the social and political encounters this substance has produced (Americans and Saudis, Canadians and First Nations, and so on) is because it is “a Problem that can be written about only in the language of Solutions”—a subject better suited to the binaries of public policy or political science than to the language of aesthetics that deals with contradiction and irresolution (1992, 139).

Despite such worries and cautions, over the past decade there has been a growing body of work in art and literature committed to naming and explaining oil with the aim of producing changes in our social imaginary.⁹ One such project is the latest exhibition of Edward Burtnysky's photographs, *Oil* (2009), which is made up of both new and old images addressing the topic of oil from every possible angle. In Burtnysky's characteristic style, which emphasizes scale, number, and hidden realities, these photos prompt shock and awe in the face of the visual representation of the sheer size of the sites of oil extraction, the varied infrastructures that enable it to course through the veins of global society, and the brute evidence of its physical, environmental, and social consequences.

Burtnysky describes *Oil* as the outcome of an “oil epiphany” he had in 1997: “It occurred to me that the vast, human-altered landscapes that I pursued and photographed for over twenty years,” he writes, “were only made possible by the discovery of oil and the mechanical advantage of the internal combustion engine.... These images can be seen as notations by one artist contemplating the world as it is made possible through this vital energy resource and the cumulative effects of industrial evolution” (2011, 2). *Oil* is divided into three sections intended to document the life cycle of the substance, passing from “Extraction and Refinement” to “Transportation and Motor Culture” to “The End of Oil.” The photos that make up each section are heterogeneous in theme and content, and photographed at numerous locations around the world.

“Extraction and Refinement” includes images of older oil fields in the California desert, which are jam-packed with drill rigs and pumpjacks; the expansive oil sands extraction sites and tailings ponds surrounding Fort McMurray, Alberta; and the complex, visually dynamic twists and turns of refinery structures in Ontario, Newfoundland, and Texas. “Transportation and Motor Culture” begins with a series of Escher-like images of enormous highway interchanges, before transporting us to massive car import lots in the United States and China, and ending in photos of sites at which people accumulate around the fantasy of driving, as in the biker and trucker jamborees held in Sturgis, South Dakota, and Walcott, Iowa.

If the photos in the first two sections draw our attention to the apparatuses and infrastructures that produce and are produced by oil, from sites of extraction largely hidden from view to the quotidian landscape of highways and car lots, the final series, “The End of Oil,” probes the consequences of oil society, especially through the detritus that it leaves behind. The multiple images of the ancient oilfields of Baku, as well as of gigantic graveyards of cars, helicopters, planes, jet engines, tires, and oil drums, are concluded with a sequence of photos on which Burtynsky first made his fame: the ship-breaking yards of Chittagong, Bangladesh, where nineteenth-century labour meets twentieth-century garbage through the mechanism of twenty-first-century offshoring of multinational capitalism’s expenses and responsibilities.

Oil is a photo-narrative—an attempt to tell a story through images. To visualize the world as it is due to oil, Burtynsky pieces this narrative together out of his existing large body of images in an effort to produce a tale that might generate in its viewers the same oil epiphany that prompted their production. One of the questions *Oil* raises is not just whether it succeeds in its political and pedagogic aim—too blunt a question to be posed to such a varied and vibrant set of images—but what we are to make of the visual mechanisms that Burtynsky employs in his photos and their capacity to name the central place of oil in our social imaginaries and ontologies.

The impulse of documentary photography with political aims is to engage in a form of didactic exposé—to introduce to vision otherwise hidden practices or spaces that we should know about, but do not, either because we do not want to or because we are not meant to. Burtynsky’s images retain some of this impulse; but there is more going on. His attention to the spectacle of scale and the elevated vantage point from which his images are taken simultaneously exemplifies and critiques the enduring fantasy of Enlightenment knowledge. The god’s eye perspective produces the enormity everywhere on display—a form of knowledge that makes it possible to see the outcome of petro-societies, but that is also able to create those economic and social systems that are able to leave signs of human activity on a planetary scale. Burtynsky’s deserts are

filled to the brim with cars and planes, and his images of garbage dumps—on a similarly otherworldly scale—track the detritus left behind when each of these is junked.

Epiphany means to understand the familiar “how” in some new way. In another register, it can mean that one finally comes to understand that one *does not* understand, or cannot possibly understand, what humanity hath wrought to the planet as a result of oil. The feeling one gets in moving through Burtynsky’s photo-narrative of oil from birth to death is more the latter than the former—the dissipation of knowledge as opposed to its expansion. This is to his credit: the painful and beautiful images on display in *Oil* never stoop to render oil manageable, not even fully graspable, except as a dimension of contemporary social life from which we can no longer hide. Using Ghosh’s terms, there is no Solution posed to the Problem on display, except perhaps to suggest that the accepted language of Solutions is always already part of the system that made the Problem identifiable as such. Mitchell points out that since there is no way to distinguish between beneficial and harmful growth, “the increased expenditure required to deal with the damage caused by fossil fuels appeared as an addition rather than an impediment of growth” (2011, 140). *All* of the images collected in *Oil* are images of growth, including the garbage graveyards and ship-breaking beaches. *Oil* confirms Kunstler’s worries, but it does so in a way that might yet generate the capacity for new social imaginaries.

One of the major difficulties faced by any aesthetic encounter with oil is the apparent capacity for the substance to absorb all critique, in much the same way that it absorbs light. In his critical reaction to Leo Lania’s play *Konjunktur* (1928), which deals with the effects of an oil strike in Albania, Bertolt Brecht remarked that “petroleum resists the five-act form” (1977, 29). When novelists or visual artists decide to focus on oil—its environmental impact, the nature of the society that it fuels, the folly of depending on a finite energy source—it is because they wish to inform and to unsettle quotidian beliefs and behaviours, thereby activating a response in their readers and viewers with respect to oil. As Brecht intuited, however, the unique position of oil at the heart of contemporary society troubles the always-uneasy relationship between aesthetics and politics. The serious consequences of petro-societies demand a major—and speedy—collective response to a social problem almost without precedent. Whether this can be accomplished through aesthetic or cultural means, or whether the social significance of oil means that we occupy a novel situation for critical aesthetic practice with respect to society and the environment, remains an open question. What work such as Burtynsky’s points to is how difficult it is for aesthetics to generate the kind and level of understanding required to produce desired social or political outcomes. Didactic exposé of the kind enacted by so many recent documentaries seems to do little but confirm the gap between knowledge and action that is a structural condition

of modern life. If Brecht is right, and oil contains aesthetics, it may be that the only way to deal with the substance is by *not* taking it head on, but by trying instead to make more fully sensible the shape and form of the world to which oil gave birth, the world that oil continues to fill with the energy the world needs to survive.

Ethical Oil?

Making oil a central part of our histories introduces genuinely new insight into the shape they have taken and the politics that might be appropriate to the current moment; considering the ways in which oil is framed and named in aesthetics allows us to understand whether we can know it differently through art in a way that might allow us to reposition it in our daily practices and so create new social imaginaries. These two ways of knowing oil might be interesting and important, but also might seem to be less significant than the place in which a daily war is being waged about how we should—or can—think about oil: the media and the political sphere. This is perhaps especially true in Canada. There is a concerted representational struggle being carried out, on multiple fronts, nationally and internationally, over the status and significance of the Alberta oil sands, a place once of interest only to geologists but now part of everyday debate and discussion. With the reclassification in 2002 of the oil sands as part of the country's "proven reserves," Canada's oil stock jumped from 5 billion to 180 billion barrels, making it the second highest in the world after Saudi Arabia. Oil and gas now represents 40% of total Canadian exports—more than double what they were in 1995 (16.5%) (Cooper 2012)—and according to Natural Resources Canada, in 2010 the energy sector accounted for 6.8% of Canada's total gross domestic product (Natural Resources Canada 2011, 14). Although Canadians are used to seeing themselves as "hewers of wood and drawers of water," this is no longer seen as curse but blessing.¹⁰ As the relative importance of manufacturing declines, and as population shifts away from the East Coast and Central Canada, for both economic and demographic reasons political power and influence has also moved out West.

The development of the oil sands is opposed by environmental and First Nations groups, who have vocally and effectively drawn attention to the ecological trauma inflicted by the processes used in bitumen extraction. Opponents include not only those actors and environmentalists who have picketed the White House to try to influence the decision-making process with respect to approval of the Keystone XL pipeline, but also the opposition New Democratic Party (NDP). NDP leader Thomas Mulcair has come out as a forceful opponent of the oil sands (not so Justin Trudeau, the leader of the Liberal Party, who is a proponent of the energy industry and of the Keystone XL pipeline). In Mulcair's view, the oil sands have created a Canadian version

of the “Dutch disease”—a decline in manufacturing linked to the artificial inflation of the value of the Canadian dollar. In British Columbia, former NDP leader Adrian Dix put together a legal team, led by a prominent specialist in environmental, Aboriginal, and resource law, to help him devise a possible legal challenge to Enbridge’s Northern Gateway pipeline. This pipeline would take bitumen from the oil sands to the West Coast for transport to China—what is seen by the federal government as an essential expansion of the market for Canadian oil, which is expected to grow from a current level of 1.2 mbl/day to 3.0 mbl/day by 2020. In both cases, NDP opposition is (or was) an explicitly political ploy: nationally, to gain support in the shaky economies of Quebec and Ontario; provincially, to win over an electorate that broadly supports the environment and is suspicious of the intentions of its resource-rich neighbours.

The federal government and industry groups have not stood idly by. In the 2012 budget, in addition to substantial cuts to a number of federal government ministries, the Conservatives announced a significant change to the environmental review process for new industrial projects. In addition to changes in process and policy, the government has ramped up its rhetoric in support of the oil sands on a number of fronts. Alarmingly, the federal government has begun to put pressure on environmental groups, suggesting that any who are involved in what might be deemed to be political advocacy could lose their status as charitable foundations. It has also suggested that the foreign contributions such organizations receive constitute the meddling of outsiders in internal affairs—a national-populist play somewhat uncommon in Canadian politics. This has already had an impact on some oil sands critics. Prominent scientist and environmentalist David Suzuki resigned from the board of the foundation that bears his name, while the charity ForestEthics has created a separate group—ForestEthics Advocacy—to make counterclaims to the government’s representation of the oil sands and Canadian environmentalists.

For the claims, counterclaims, and rhetorical appeals of industry to function, they need to be seen as more than simply advocacy on the part of parties interested in profit at whatever cost to the planet. Industry groups have made a point of widely advertising their efforts to reclaim oil sands land and to act as responsible stewards of the environment; over the past several years, in addition to the other advertisements that cinema-going audiences have had to endure, they had to sit through advertisements by Cenovus (2011) that linked the company’s new bitumen extraction technologies to the long history of Canadian innovation and its can-do attitude with respect to the scale of the country and the hostile cold of its winters (the punch line: “Canada: it’s spelt with a ‘can,’ not a ‘can’t””). Taking no chances, proponents of oil sands development have also flirted with a philosophical discourse about the oil sands—an ethics related to the form and shape of their development.

Ezra Levant's *Ethical Oil: The Case for Canada's Oil Sands* (2010) is not a genuine philosophical or theoretical text, nor is it an especially well-argued book, tending towards high-school debate-club style dismissals of opponents' positions through the deployment of what are at times relatively crude forms of rhetoric (a reliance on the identification of contradiction, expressions of startled surprise at the discovery of supposed hypocrisies, and so on). For all this, however, it articulates themes that lurk beneath many of the representational strategies of business and government concerning the oil sands: these make an appeal not only to science and economic necessity in the struggle for what Cymene Howe has termed "anthropocentric ecoauthority," but also to the good and the right course of action (Howe forthcoming). Whatever else ethics might be, they are intended to constitute the elaboration of the axioms and principles around which action and practice is shaped and governed, with respect to individuals, groups, or even non-human beings. Levant's book provides no such account; rather it engages in a broad attack on what he sees as the misguided ethics of those opposed to the development of the oil sands, alongside a concerted defence of the industry's practices. His arguments are anchored in a single core claim:

Oil is an international commodity; if an oil-thirsty country such as China or the United States can't buy oil from one country, they'll buy it from another. So even if the oil sands were to completely shut down, the world wouldn't use one barrel less. It would just buy that oil from the oil sands' competitors: places like Saudi Arabia, Iran, Sudan, and Nigeria.... The question is not whether we should use oil sands oil instead of some perfect fantasy fuel that hasn't been invented yet. Until that miracle fuel is invented, the question is whether we should use oil from the oil sands or oil from the other places in the world that pump it. (Levant 2010, 6-7)

Levant is unequivocal: by every possible ethical measure—whether human rights records, labour practices, or (most dubiously) environmental policies—Canada comes out ahead of its petro-competitors; he writes, for instance, "if Saudi Arabia didn't exist, it would take a science fiction writer in an apocalyptic mood to invent it" (15). The Panglossian verdict? Levant argues that "Canadian oil sands oil is the most ethical oil in the world, and the people who invest there, work there, and support the oil sands ... are all, gradually, helping to make the world a more moral, humane, and better place" (234). This ethics of necessity, of the liberal "good guys" providing the energy to a world in desperate need of the stuff, is a way of knowing oil that absorbs any lingering anxieties and worries about the addition of Canada to a family of resource superpowers distinguished mainly by their dubious policies and politics.

It is clear what is at stake for government and industry in the multiple fronts on which they are waging the war of rhetoric over the growth and expansion of the Canadian oil industry. There is a great deal of money to be made in the oil sands. Alberta is criss-crossed with pipelines, and multiple pipelines already make their way across the border to the United States and over the Rocky Mountains to the Pacific Coast. The current struggle is to expand this infrastructure not only to accommodate new supply, but also to allow Western Canada Select Crude to trade at a price closer to world prices than its current discount rate (Reuters 2013). Is this expansionary activity helping to make the world a better place? Such a conclusion can only be drawn from a too-easy acceptance of what already is: that we live in societies whose form and character depend entirely on oil. Of course, it is just this hypostatization of the political and social form and possibility that is challenged by those critics of the oil sands whom Levant and others on the political right critique.

That this sets the bar high for opponents to petro-societies does not invalidate their criticisms of the short- and long-term consequences of oil extraction and use. To Levant's logic of *either/or*—either the oil sands or something much worse, either (to put it plainly) democracy or fundamentalism—the proper response is to challenge the terms of the decision itself. In his response to the Bush administration's call for the US public to pick sides after 9/11, philosopher Slavoj Žižek famously argues that “What is problematic in the way that the ruling ideology imposes this choice on us is not ‘fundamentalism’ but, rather, *democracy itself*: as if the only alternative to ‘fundamentalism’ is the political system of liberal parliamentary democracy” (Žižek 2002, 3)—or as if the only alternative to unethical oil is a supposedly more ethical one. One can reject both in favour of a possibility that exceeds and escapes the necessity of the given in favour of some third term yet to be named.

The parallel between politics and oil does not work, however; here we do reach an impasse in “how” we might know oil that is at once political and theoretical. What is unethical about the oil that Levant contrasts to the oil sands is in the main that it is nationalized and not owned by private companies. State-owned oil companies control 73% of the world's reserves; significantly, of the remainder, which is to say, privately owned oil, more than 50% is located in the Alberta oil sands (Golden 2012; Canadian Association of Petroleum Producers 2012). For Levant, betraying the law of property always already means conceding defeat to the fundamentalisms of oil states such as Saudi Arabia, Iran, Sudan, and Venezuela. Whether oil is ethical or unethical, whether it might not be possible to have a national oil company that is not fundamentalist (Statoil, Norway's oil company, is mentioned only in passing by Levant), what persists amidst all the rhetoric is the necessity of oil itself.

In a recent poll, two thirds of Canadians reported that they believed that the country could increase its oil and gas production without generating any further damage to the environment (Postmedia News 2012). Wishful thinking in the extreme? Or the consequence of no better alternative to what is? The representational struggles that are taking place over the oil sands pit the language of marketing against the discourse of finitude. Government and industry want to make sure that the oil sands continue to be in demand in the way that one of Canada's other major exports—Blackberries—no longer are. To this, in the absence of a miracle fuel, the left can only offer dire warnings. James Hansen, head of NASA's Godard Institute for Space Studies and one of the people credited for first raising alarm about climate change, suggested in the *New York Times* that to exploit the oil sands fully would place civilization at risk. The fantasy of greening something black has proven to be the more attractive vision not only because it holds out the possibility of amelioration as opposed to transformation, but because no real alternative has otherwise been proffered (Hansen 2012). The only thing that the left can offer in its opposition to the oil sands, and indeed, to the use of oil more generally, is that we stop using it. Although it might be a challenge to do so, the better option would be to try to figure out how to generate ideas of how a world of seven billion people might use oil to different ends and for different purposes, and perhaps to a lesser extent than recent projections of the continued expansion of fossil fuel use into mid-century (see Hussain 2013). Rejection of the resource constitutes no politics at all, hardly rising to the challenge of creating new ideas for how (and why) we might be able to live without oil.

Conclusion: How to Know about Oil

There are better and worse ways to know about oil. The large circuits of power and politics in which oil is intertwined were brought into focus during the 2003 Iraq War. During the global anti-war demonstrations that took place in February of that year, "No Blood for Oil!" signs identified petroleum as the true imperative of US military action in the country. In their analysis of the US invasions of Afghanistan and Iraq, the collective Retort argues that the connection between war and oil was in fact *not* borne out by facts on the ground. While the link established by publics between the exercise of military force and oil seems to suggest a form of political awakening and "*aspires* to be an economic explanation of history ... it is really still locked inside a 'hero-and-villains' vision of social process. It revolves around the (malign) power of a single commodity, substituting the facticity of oil (and oil men) for the complex, partially *non-factual* imperatives of capital accumulation" (Retort 2005, 42). For Retort, oil must be seen as part of a larger capitalist system engaged in a form of ongoing

primitive accumulation. However important a commodity it might be—oil is one of a handful of strategic commodities that remain “the motors of production, the ultimate hard currency of exchange” (39)—for Retort a narrow focus on oil identifies the wrong cause for the military forms of neo-liberalism that have emerged in the first decade of the twenty-first century, which are driven by the necessities of accumulation and the problems of overproduction and under-consumption that have threatened capitalism since it entered the monopoly stage of production.

How else might we know oil besides this emphasis on system? The primary discourse in which oil is named and described is in relation to the environment. Here, too, oil has been treated as one aspect of a larger problem—whether conceptually, within philosophies that identify alienation from nature as one dimension of social alienation,¹¹ or in relation to those material and economic processes that generate the human impact on the planet. The incorporation of ecology into left political theory has to date been relatively (one might also say surprisingly) easy. At its core, capitalism is a system that generates private riches by using up public wealth—that is, natural elements such as water, air, soil, and wood—and by removing workers from the earth as the site of the production of their own lives. According to John Bellamy Foster, who is probably the most well-known theorist linking Marxism and ecology, the real moment of ecological crisis arises with the monopoly stage of capitalism. The problem of having to absorb surplus production was “resolved” through the creation of the consumer society we continue to enjoy and endure (Bellamy Foster 2011). This society is one characterized by enormous waste and inefficiencies in the generation of the necessary profit from production. For Bellamy Foster and other Marxists, it is the ever-widening gap between socially necessary production and the massive superfluous production characteristic of contemporary capitalist society that transforms capitalism’s fundamental imperative of shifting public into private wealth into a system that due to its intensity and scale threatens life on the planet as such.

Monopoly capital is enabled by oil in a more direct way than Retort might believe—which is not to say that oil was the direct cause of the war with Iraq. The expansion of capital could not have occurred in the absence of oil as a hegemonic form of energy. It is not only economists who have a blind spot with respect to the function of oil in contemporary economic and social systems and the objects and infrastructures they have produced over a century and a half of perpetual expansion. The elimination or reduction of wasteful, excessive production and consumption through a new social and political system no longer premised on consumer society *would* produce a socialism that had a much smaller ecological footprint. That socialism, however, would still require a significant amount of energy to fuel it, especially if it had as one of its goals the reduction or elimination of necessity in order to engender greater and greater

social freedom. Labour is one of the key elements of this necessity; the possibility of freedom from labour through the increasing productive capacities of industrial systems has long fuelled left imaginings of future social possibilities, from Marx through to mid-century imaginings of a gradually reduced work week to Italian *operaismo* and its theorization of the shift from the factory to the social factory. The political possibilities of the limitless capacities of creativity that accompany the hegemony of affective or creative labour, as theorized in different ways by Michael Hardt and Antonio Negri (e.g., 2000), and Paolo Virno (e.g., 2004), are none the less still weighed down by the very real, material limits of the energy required to fuel the systems in which such creative, affective work is carried out.¹² It may be reductive to position oil as the *ur*-commodity that fuels two imaginaries—that of capitalism *and* socialism. It would be a mistake, however, to treat it as less significant than it in fact is: a substance fully deserving a prominent role in those alternative histories, aesthetic speculations on the future, and political struggles in the present that I have investigated here. The energy that makes modernity possible has, until recently, never been named, and its conceptual, as well as social and historical, significance never explained. As I hope I have showed in the various ways that we know oil—or need to know it, need to understand that our knowledge of it takes different forms with different repercussions—this is something that is essential to add to our calculations of future political possibilities, as well as to our understanding of the past within which our ideas of labour and capital were born and shaped into forms on which we still rely.

What if we were to renarrate left politics with the energy and capacities introduced by oil as a key element of the story? How might this force us to reimagine both anti-capitalist and environmental politics? The insights offered by Mitchell about the significance of oil in shaping and enabling contemporary democratic governmentality tells us more about the directions taken by capitalism than the counterpoints that have hitherto been offered by the left. The civilization possibilities introduced by oil are seductive and far easier to defend with representational fictions of petro-plentitude—which accord both with the specialized narratives of economics and with quotidian common sense—than with (still abstract) ideas and ideals of environmental devastation on the horizon, however close that horizon might be. Some representational openings might be generated by aesthetic interventions into oil imaginaries of the kind offered by Burtynsky's *Oil*, though most examples of oil art are more determinate and didactic—which is to say unrealistic—in their renderings of what petro-societies might be in the absence of petroleum. Even work as careful as Burtynsky's has to struggle with its capacity to intervene meaningfully at the level necessary to generate social and political change, whether due to the representational struggle over oil taking place in the media or the theoretical challenges that Jacques Rancière and others have

made recently to assumptions guiding the concatenation of aesthetics and politics that have long fuelled the energies of cultural critics (see Rancière 2010; Raunig 2007). The introduction of oil and energy would not invalidate left thinking, but make it more alert to the necessity of mass energy for the enormous social and infrastructural systems we inhabit *and* those we prophesize. It would also alert us to the dead end of any environmental discourse that continues to ally itself with economics (as in some variants of theories of sustainability)—a discourse that depends on oil being virtually “free”—and the need to create aesthetic *and* political interventions that oppose the narrative of endless growth with something more direct and more powerful than the ecological ethics on which we continue to depend.

Understanding how we know oil, and how we might or should know it, should make us alert to the very real challenges of naming, thinking, and changing the global society and social imaginaries that we have constituted around black gold, a substance that has given us the force to shape ourselves into what we are; we depend on oil in daily life, and even as we endure the consequences of having used so much of it, we one day will have to do without it. The insights into how we know oil that emerge out of work such as Mitchell's and Burtynsky's, and from the public struggles over the political significance of sites of oil extraction and use, as in the case of the Alberta oil sands, do not come close to addressing the challenge that Smil poses in his framing of the difficulties of transition from fossil-fuel to non-fossil-fuel societies. Thinking about the diverse and distinct ways in which we know oil and how we might come to know it differently highlights the necessity—and very real difficulty—of naming the problem and narrating the changes needed in a way that does not simply reinforce the inevitability of oil and the impossibility of the transitions we so desperately need. We are only at the beginning of the critical process of *really* knowing oil, of knowing it as fundamental to the determinations of our subjectivities and the shape of our social lives. Only by knowing oil can we start to understand fully what and who we might become without it—a task that needs to be at the heart of our political thinking today.

NOTES

I want to thank Sarah Blacker, Matthew Evenden, Maria Whiteman, and the anonymous reviewers for the *Journal of Canadian Studies* for their comments on earlier drafts of this essay, which helped to transform it from a piece intended for oral presentation to a journal article.

1. There has been an explosion of books over the past decade that have examined the implications of oil for geopolitics, the environment, and economics. Amongst the most prominent and influential of these, including research with specific reference to Canada, are works by Steve Coll (2012), Richard Heinberg (2005), Andrew Heintzman and Evan Solomon (2003),

- Thomas Homer-Dixon (2009), Macartan Humphreys, Jeffrey Sachs, and Joseph Stiglitz (2007), Michael Klare (2005, 2009), James Marriott and Mika Minio-Paluello (2012), Scott Montgomery (2010), Jeff Rubin (2012), Matthew Simmons (2005), and Daniel Yergin (2011).
2. An increasing number of articles and books have endeavoured to draw attention to the broad cultural and political implications of our societal dependence on oil. Such works offer re-narrations of history and speculative future projections of social changes and developments as a result of changes in energy use, and also explore (in a way similar to the project of this essay) the theoretical implications of attending to oil and energy (see Boyer 2011; Burkett and Bellamy Foster 2006; Knechtel 2008; Negarestani 2008; Nikiforuk 2012; Stoekl 2007, 2012). There have also been intriguing efforts to understand how oil and energy shape feeling and belief (see, e.g., Hitchcock 2010; LeMenager 2011, 2013).
 3. For a discussion of the dominant public narratives of the future of fossil fuels, see Szeman (2007, 805-23), especially the section on “techno-utopianism” (812-14).
 4. The study of the agency of objects is the focus of new materialist criticism, which attends to “efficacy of objects in excess of the human meanings, designs, or purposes they express or serve” (Bennett 2010, 20). A model of this kind of research in relation to oil can be found in Matthew Huber’s *Lifeblood*, which addresses from multiple perspectives “the materiality of oil and how it shapes its ‘system of provision’”—oil as a “specifically material aspect of the alienated—seemingly autonomous—power of capital over living labor” and as “a central energy resource shaping the forces of social reproduction, or what I call the real subsumption of life under capital” (2013, xix).
 5. To get some sense of the importance of fossil fuels to the shape and character of the twentieth century, consider Edward Renshaw’s now half-century old study of changing energy inputs into the economy. Renshaw points out that “animals contributed 52.4 per cent of total work output in the United States in 1850; human workers, 12.6 per cent; wind, water, and fuel wood, 27.8 per cent; and fossil fuels, 6.8 per cent. In 1950, work animals are estimated to have contributed only 0.7 per cent of total work output; human workers, 0.9 per cent; wind, water, and fuel wood, 7.8 per cent; and fossil fuels, 90.8 per cent” (1963, 284). Recent studies have indicated that by 2020, coal will once again be the dominant source of energy in the world (Tan 2013).
 6. For the difficulties of activating a politics around buried pipelines, see James Marriott and Mika Minio-Paluello’s account of retracing the path of the BTC pipeline from source (in Azerbaijan) to mouth (in the Mediterranean Sea) (Marriott and Minio-Paluello 2012).
 7. One of the reasons why legal and police authorities devoted so many resources and attention to Wiebo Ludwig was because of the success with which he and members of his family engaged in direct actions against sour gas wells near his property in northwestern Alberta, sabotaging well heads and pipelines more than 100 times (see Nikiforuk 2001).
 8. Bernard Harcourt argues that “Occupy Wall Street immediately fashioned a new form of political engagement, a new kind of politics. It is a form of political engagement that challenges our traditional political vocabulary, that ambiguates the grammar we use, that playfully distorts our very language of politics” (2013, 46). Equally, however, one could view

Occupy not as a form of radical refusal of an intervention into the existing terrain of rights and freedoms, but as an example *par excellence* of the exhaustion of an existing form of political struggle—the street action; Occupy was likely both of these at the same time (see Harcourt 2013; Szeman 2014).

9. In the art world, oil and gas have become subjects that artists have begun to approach head-on through a variety of mediums and a range of perspectives. As two examples of a growing body of work, see *The Oil Show* (Arns 2011), an exhibition held at the Hartware MedienKunstVerein in Dortmund, Germany, and Ernst Logar's *Invisible Oil*, a catalogue of a solo show staged at Peacock Visual Arts in Aberdeen, Scotland. A large number of documentaries about the politics of oil have also been produced since 2000. For an analysis of, respectively, art film and didactic documentaries on oil, see Szeman (2010, 2012). I would like to thank Maria Whiteman for her help with this section.
10. The phrase comes from the Bible: "You are now under a curse: You will never cease to serve as woodcutters and water carriers for the house of my God" (Josh. 9:23; English Standard Version). The connection to Canada was famously made by Harold Innis in 1930.
11. For an overview, see Andrew Biro's work (2005).
12. For a discussion of the antinomies that exist between the contemporary anticapitalist and environmental movements, see Michael Hardt's article (2010).

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