But for those of us born and raised inside this system, though we may well see the dead-end flaw of its central logic, it can remain intensely difficult to see a way out. And how could it be otherwise? Post-Enlightenment Western culture does not offer a road map for how to live that is not based on an extractivist, nonreciprocal relationship with nature.

This is where the right-wing climate deniers have overstated their conspiracy theories about what a cosmic gift global warming is to the left. It is true, as I have outlined, that many climate responses reinforce progressive support for government intervention in the market, for greater equality, and for a more robust public sphere. But the deeper message carried by the ecological crisis—that humanity has to go a whole lot easier on the living systems that sustain us, acting regeneratively rather than extractively—is a profound challenge to large parts of the left as well as the right. It's a challenge to some trade unions, those trying to freeze in place the dirtiest jobs, instead of fighting for the good clean jobs their members deserve. And it's a challenge to the overwhelming majority of center-left Keynesians, who still define economic success in terms of traditional measures of GDP growth, regardless of whether that growth comes from rampant resource extraction. (This is all the more baffling because Keynes himself, like John Stuart Mill, advocated a transition to a post-growth economy.)

It's a challenge, too, to those parts of the left that equated socialism with the authoritarian rule of the Soviet Union and its satellites (though there was always a rich tradition, particularly among anarchists, that considered Stalin's project an abomination of core social justice principles). Because the fact is that those self-described socialist states devoured resources with as much enthusiasm as their capitalist counterparts, and spewed waste just as recklessly. Before the fall of the Berlin Wall, for instance, Czechs and Russians had even higher carbon footprints per capita than Canadians and Australians. Which is why one of the only times the developed world has seen a precipitous emissions drop was after the economic collapse of the former Soviet Union in the early 1990s. Mao Zedong, for his part, openly declared that "man must conquer nature," setting loose a devastating onslaught on the natural world that transitioned seamlessly from clear-cuts under communism to mega-dams under capitalism. Russia's oil and gas companies, meanwhile, were as reckless and accident-prone under state socialist control as they are today in the hands of the oligarchs and Russia's corporatist state.[39]



And why wouldn't they be? Authoritarian socialism and capitalism share strong tendencies toward centralizing (one in the hands of the state, the other in the hands of corporations). They also both keep their respective systems going through ruthless expansion—whether through production for production's sake, in the case of Soviet-era socialism, or consumption for consumption's sake, in the case of consumer capitalism.

One possible bright spot is Scandinavian-style Social Democracy, which has undoubtedly produced some of the most significant green breakthroughs in the world, from the visionary urban design of Stockholm, where roughly 74 percent of residents walk, bike, or take public transit to work, to Denmark's community-controlled wind power revolution. And yet Norway's late-life emergence as a major oil producer—with majority state-owned Statoil tearing up the Alberta tar sands and gearing up to tap massive reserves in the Arctic—calls into question whether these countries are indeed charting a path away from extractivism.[40]

In Latin America and Africa, moving away from overdependence on raw resource extraction and export, and toward more diversified economies, has always been a central piece of the postcolonial project. And yet some countries where left and center-left governments have come to power over the last decade are moving in the opposite direction. The fact that this tendency is little discussed outside the continent should not be surprising. Progressives around the world have rightfully cheered Latin America's electoral "pink tide," with government after government coming to power promising to reduce inequality, tackle extreme poverty, and take back control over the extractive industries of their respective countries. And purely from the perspective of poverty reduction, the results have often been stunning.

Since the election of Luiz Inácio Lula da Silva, and now under the leadership of his former chief of staff, Dilma Rousseff, Brazil has reduced its extreme poverty rate by 65 percent in a single decade, according to the government. More than thirty million people have been lifted out of poverty. After the election of Hugo Chávez, Venezuela slashed the percentage of the population living in extreme poverty by more than half—from 16.6 percent in 1999 to 7 percent in 2011, according to government statistics.

College enrollment has doubled since 2004. Ecuador under Rafael Correa has dropped its poverty rates by 32 per cent, according to the World Bank. In Argentina, urban poverty plummeted from 54.7 percent in 2003 to 6.5 percent in 2011, according to government data collected by the U.N.[41]

Bolivia's record, under the presidency of Evo Morales, is also impressive. It has reduced the proportion of its population living in extreme poverty from 38 percent in 2005 to 21.6 percent in 2012, according to government figures.[42] And unemployment rates have been cut in half. Most importantly, while other developing countries have used growth to create societies of big winners and big losers, Bolivia is actually succeeding in building a more equal society. Alicia Bárcena Ibarra, executive secretary of the U.N. Economic Commission for Latin America and the Caribbean, observes that in Bolivia "the gap between rich and poor has been hugely narrowed."[43]

All of this is a marked improvement over what came before, when the wealth extracted from each of these countries was overwhelmingly concentrated among a tiny elite, with far too much of it fleeing the continent entirely. And yet these left and center-left governments have so far been unable to come up with economic models that do not require extremely high levels of extraction of finite resources, often at tremendous ecological and human cost. This is true for Ecuador, with its growing oil dependence, including oil from the Amazon; Bolivia, with its huge dependence on natural gas; Argentina, with its continued support for open-pit mining and its "green deserts" of genetically modified soy and other crops; Brazil, with its highly contentious mega-dams and forays into high-risk offshore oil drilling; and of course it has always been the case for petro-dependent Venezuela. Moreover, most of these governments have made very little progress on the old dream of diversifying their economies away from raw resource exports—in fact, between 2004 and 2011, raw resources as a percentage of overall exports increased in all of these countries except Argentina, though some of this increase was no doubt due to rising commodity prices. It hasn't helped that China has been throwing easy credit around the continent, in some cases demanding to be paid back in oil.[44]

This reliance on high risk and ecologically damaging forms of extraction is particularly disappointing in the governments of Evo Morales in Bolivia and Rafael Correa in Ecuador. In their first terms, both had signaled that a new, nonextractive chapter was beginning in their countries. Part of this involved granting real respect to the Indigenous cultures that had survived centuries of marginalization and oppression and that form powerful political constituencies in both countries. Under Morales and Correa, the Indigenous concepts of *sumak kawsay* and *buen vivir*, which strive to build societies in harmony with nature (in which everyone has enough, rather than more and more), became the discourse of government, even recognized in law. But in both cases, escalating industrial-scale development and extraction has overtaken this promising rhetoric. According to Ecuador's Esperanza Martínez, "Since 2007, Correa's has been the most extractivist government in the history of the country, in terms of oil and now also mining." Indeed Latin American intellectuals have invented a new term to describe what they are experiencing: "progressive extractivism."[45]



The governments claim they have no choice—that they need to pursue extractive policies in order to pay for programs that alleviate poverty. And in many ways this explanation comes back to the question of climate debt: Bolivia and Ecuador have been at the forefront of the coalition of governments asking that the countries responsible for the bulk of historical greenhouse gas emissions help to pay for the Global South's transition away from dirty energy and toward low-carbon development. These calls have been alternatively ignored and dismissed. Forced to choose between poverty and pollution, these governments are choosing pollution, but those should not be their only options.

The default overreliance on dirty extraction is not only a problem for progressives in the developing world. In Greece in May 2013, for instance, I was surprised to discover that the left-wing Syriza party—then the country's official opposition and held up by many progressive Europeans as the great hope for a real political alternative on the continent—did not oppose the governing coalition's embrace of new oil and gas exploration. Instead, it argued that any funds raised by the effort should be spent on pensions, not used to pay back creditors. In other words: they were not providing an alternative to extractivism but simply had better plans for distributing the spoils.

Far from seeing climate change as an opportunity to argue for their socialist utopia, as conservative climate change deniers fear, Syriza had simply stopped talking about global warming altogether.

This is something that the party's leader, Alexis Tsipras, admitted to me

quite openly in an interview: "We were a party that had the environment and climate change in the center of our interest," he said. "But after these years of depression in Greece, we forgot climate change."[46] At least he was honest.

The good news, and it is significant, is that large and growing social movements in all of these countries are pushing back against the idea that extraction-and-redistribution is the only route out of poverty and economic crisis. There are massive movements against gold mining in Greece, so large that Syriza has become a significant opponent of the mines. In Latin America, meanwhile, progressive governments are increasingly finding themselves in direct conflict with many of the people who elected them, facing accusations that their new model of what Hugo Chávez called "Twenty-first-Century Socialism" simply isn't new enough. Huge hydro dams in Brazil, highways through sensitive areas in Bolivia, and oil drilling in the Ecuadorian Amazon have all become internal flashpoints. Yes, the wealth is better distributed, particularly among the urban poor, but outside the cities, the ways of life of Indigenous peoples and peasants are still being endangered without their consent, and they are still being made landless by ecosystem destruction. What is needed, writes Bolivian environmentalist Patricia Molina, is a new definition of development, "so that the goal is the elimination of poverty, and not of the poor."[47]

This critique represents more than just the push and pull of politics; it is a fundamental shift in the way an increasingly large and vocal political constituency views the goal of economic activity and the meaning of development. Space is opening up for a growing influence of Indigenous thought on new generations of activists, beginning, most significantly, with Mexico's Zapatista uprising in 1994, and continuing, as we will see, with the important leadership role that Indigenous land-rights movements are playing in pivotal anti-extraction struggles in North America, Latin America, Australia, and New Zealand. In part through these struggles, non-Indigenous progressive movements are being exposed to worldviews based on relationships of reciprocity and interconnection with the natural world that are the antithesis of extractivism. These movements have truly heard the message of climate change and are winning battles to keep significant amounts of carbon in the ground.



## Some Warnings, Unheeded

There is one other group that might have provided a challenge to Western culture's disastrous view of nature as a bottomless vending machine. That group, of course, is the environmental movement, the network of organizations that exists to protect the natural world from being devoured by human activity. And yet the movement has not played this role, at least not in a sustained and coherent manner.

In part, that has to do with the movement's unusually elite history, particularly in North America. When conservationism emerged as a powerful force in the late nineteenth and early twentieth centuries, it was primarily about men of privilege who enjoyed fishing, hunting, camping, and hiking and who recognized that many of their favorite wilderness spots were under threat from the rapid expansion of industrialization. For the most part, these men did not call into question the frenetic economic project that was devouring natural landscapes all over the continent—they simply wanted to make sure that some particularly spectacular pockets were set aside for their recreation and aesthetic appreciation. Like the Christian missionaries who traveled with traders and soldiers, most early preservationists saw their work as a civilizing addendum to the colonial and industrial projects—not as a challenge to them. Writing in 1914, Bronx Zoo director William Temple Hornaday summed up this ethos, urging American educators to "take up their share of the white man's burden" and help to "preserve the wild life of our country."[48]

This task was accomplished not with disruptive protests, which would have been unseemly for a movement so entrenched in the upper stratum of society. Instead, it was achieved through quiet lobbying, with well-bred men appealing to the noblesse oblige of other men of their class to save a cherished area by turning it into a national or state park, or a private family preserve—often at the direct expense of Indigenous people who lost access to these lands as hunting and fishing grounds.

There were those in the movement, however, who saw in the threats to their country's most beautiful places signs of a deeper cultural crisis. For instance, John Muir, the great naturalist writer who helped found the Sierra Club in 1892, excoriated the industrialists who dammed wild rivers and

"The federal cabinet needs First Nations' approval and social license from British Columbians, and they have neither," said Sierra Club BC campaigns director Caitlyn Vernon. And referring to the Save the Fraser Declaration signed by Chief Baptiste and so many others, she added, "First Nations have formally banned pipelines and tankers from their territories on the basis of Indigenous law."[60] It was a sentiment echoed repeatedly in news reports: that the legal title of the province's First Nations was so powerful that even if the federal government did approve the pipeline (which it eventually did in June 2014), the project would be successfully stopped in the courts through Indigenous legal challenges, as well as in the forests through direct action.

Is it true? As the next chapter will explore, the historical claims being made by Indigenous peoples around the world as well as by developing countries for an honoring of historical debts indeed have the potential to act as counterweights to increasingly undemocratic and intransigent governments. But the outcome of this power struggle is by no means certain. As always, it depends on what kind of movement rallies behind these human rights and moral claims.

11

# YOU AND WHAT ARMY?

## Indigenous Rights and the Power of Keeping Our Word

**"I never thought I would ever see the day that we would come together. Relationships are changing, stereotypes are disappearing, there's more respect for one another. If anything, this Enbridge Northern Gateway has unified British Columbia."**

–Geraldine Thomas-Flurer, coordinator of the Yinka Dene Alliance, a First Nations coalition opposing the Enbridge Northern Gateway pipeline, 2013[1]

**"There is never peace in West Virginia because there is never justice."**

–Labor organizer Mary Harris "Mother" Jones, 1925[2]

The guy from Standard & Poor's was leafing through the fat binder on the round table in the meeting room, brow furrowed, skimming and nodding.

It was 2004 and I found myself sitting in on a private meeting between two important First Nations leaders and a representative of one of the three most powerful credit rating agencies in the world. The meeting had been requested by Arthur Manuel, a former Neskonlith chief in the interior of British Columbia, now spokesperson for the Indigenous Network on Economies and Trade.

Arthur Manuel, who comes from a long line of respected Native leaders, is an internationally recognized thinker on the question of how to force belligerent governments to respect Indigenous land rights, though you might not guess it from his plainspoken manner or his tendency to chuckle mid-sentence. His theory is that nothing will change until there is a credible

threat that continuing to violate Native rights will carry serious financial costs, whether for governments or investors. So he has been looking for different ways to inflict those costs.

That's why he had initiated a correspondence with Standard & Poor's, which routinely blesses Canada with a AAA credit rating, a much coveted indicator to investors that the country is a safe and secure place in which to sink their money. In letters to the agency, Manuel had argued that Canada did not deserve such a high rating because it was failing to report a very important liability: a massive unpaid debt that takes the form of all the wealth that had been extracted from unceded Indigenous land, without consent—since 1846.[3] He further explained the various Supreme Court cases that had affirmed that Aboriginal and Treaty Rights were still very much alive.

After much back-and-forth, Manuel had managed to get a meeting with Joydeep Mukherji, director of the Sovereign Ratings Group, and the man responsible for issuing Canada's credit rating. The meeting took place at S&P's headquarters, a towering building just off Wall Street. Manuel had invited Guujaaw, the charismatic president of the Haida Nation, to help him make the case about those unpaid debts, and at the last minute had asked me to come along as a witness. Unaware that, post-9/11, official ID is required to get into all major Manhattan office buildings, the Haida leader had left his passport in his hotel room; dressed in a short-sleeved checked shirt and with a long braid down his back, Guujaaw almost didn't make it past security. But after some negotiation with security (and intervention from Manuel's contact upstairs), we made it in.

At the meeting, Manuel presented the Okanagan writ of summons, and explained that similar writs had been filed by many other First Nations. These simple documents, asserting land title to large swaths of territory, put the Canadian government on notice that these bands had every intention of taking legal action to get the economic benefits of lands being used by resource companies without their consent. These writs, Manuel explained, represented trillions of dollars' worth of unacknowledged liability being carried by the Canadian state.

Guujaaw then solemnly presented Mukherji with the Haida Nation's registered statement of claim, a seven-page legal document that had been filed before the Supreme Court of British Columbia seeking damages and



reparations from the provincial government for unlawfully exploiting and degrading lands and waters that are rightfully controlled by the Haida. Indeed, at that moment, the case was being argued before the Supreme Court of Canada, challenging both the logging giant Weyerhaeuser and the provincial government of British Columbia over a failure to consult before logging the forests on the Pacific island of Haida Gwaii. "Right now the Canadian and British Columbia governments are using our land and our resources—Aboriginal and Treaty Rights—as collateral for all the loans they get from Wall Street," Manuel said. "We are in fact subsidizing the wealth of Canada and British Columbia with our impoverishment."[4]

Mukherji and an S&P colleague listened and silently skimmed Manuel's documents. A polite question was asked about Canada's recent federal elections and whether the new government was expected to change the enforcement of Indigenous land rights. It was clear that none of this was new to them—not the claims, not the court rulings, not the constitutional language. They did not dispute any of the facts. But Mukherji explained as nicely as he possibly could that the agency had come to the conclusion that Canada's First Nations did not have the power to enforce their rights and therefore to collect on their enormous debts. Which meant, from S&P's perspective, that those debts shouldn't affect Canada's stellar credit rating. The company would, however, continue to monitor the situation to see if the dynamics changed.

And with that we were back on the street, surrounded by New Yorkers clutching iced lattes and barking into cell phones. Manuel snapped a few pictures of Guujaaw underneath the Standard & Poor's sign, flanked by security guards in body armor. The two men seemed undaunted by what had transpired; I, on the other hand, was reeling. Because what the men from S&P were really saying to these two representatives of my country's original inhabitants was: "We know you never sold your land. But how are you going to make the Canadian government keep its word? You and what army?"

At the time, there did not seem to be a good answer to that question. Indigenous rights in North America did not have powerful forces marshaled behind them and they had plenty of powerful forces standing in opposition. Not just government, industry, and police, but also corporate-owned media that cast them as living in the past and enjoying undeserved special rights,

while those same media outlets usually failed to do basic public education about the nature of the treaties our governments (or rather their British predecessors) had signed. Even most intelligent, progressive thinkers paid little heed: sure they supported Indigenous rights in theory, but usually as part of the broader multicultural mosaic, not as something they needed to actively defend.

However, in perhaps the most politically significant development of the rise of Blockadia-style resistance, this dynamic is changing rapidly—and an army of sorts is beginning to coalesce around the fight to turn Indigenous land rights into hard economic realities that neither government nor industry can ignore.

## The Last Line of Defense

As we have seen, the exercise of Indigenous rights has played a central role in the rise of the current wave of fossil fuel resistance. The Nez Perce were the ones who were ultimately able to stop the big rigs on Highway 12 in Idaho and Montana; the Northern Cheyenne continue to be the biggest barrier to coal development in southeastern Montana; the Lummi present the greatest legal obstacle to the construction of the biggest proposed coal export terminal in the Pacific Northwest; the Elsipogtog First Nation managed to substantially interfere with seismic testing for fracking in New Brunswick; and so on. Going back further, it's worth remembering that the struggles of the Ogoni and Ijaw in Nigeria included a broad demand for self-determination and resource control over land that both groups claimed was illegitimately taken from them during the colonial formation of Nigeria. In short, Indigenous land and treaty rights have proved a major barrier for the extractive industries in many of the key Blockadia struggles.

And through these victories, a great many non-Natives are beginning to understand that these rights represent some of the most robust tools available to prevent ecological crisis. Even more critically, many non-Natives are also beginning to see that the ways of life that Indigenous groups are protecting have a great deal to teach about how to relate to the land in ways that are not purely extractive. This represents a true sea change over



a very short period of time. My own country offers a glimpse into the speed of this shift.

The Canadian Constitution and the Canadian Charter of Rights and Freedoms acknowledge and offer protection to "aboriginal rights," including treaty rights, the right to self-government, and the right to practice traditional culture and customs. There was, however, a widespread perception among Canadians that treaties represented agreements to fully surrender large portions of lands in exchange for the provision of public services and designated rights on much smaller reserves. Many Canadians also assumed that in the lands not covered by any treaty (which is a great deal of the country, 80 percent of British Columbia alone), non-Natives could pretty much do what they wished with the natural resources. First Nations had rights on their reserves, but if they once had rights off them as well, they had surely lost them by attrition over the years. Finders keepers sort of thing, or so the thinking went.[5]

All of this was turned upside down in the late 1990s when the Supreme Court of Canada handed down a series of landmark decisions in cases designed to test the limits of Aboriginal title and treaty rights. First came *Delgamuukw v. British Columbia* in 1997, which ruled that in those large parts of B.C. that were not covered by any treaty, Aboriginal title over that land had never been extinguished and still needed to be settled. This was interpreted by many First Nations as an assertion that they still had full rights to that land, including the right to fish, hunt, and gather there. Chelsea Vowel, a Montréal-based Métis educator and Indigenous legal scholar, explains the shockwave caused by the decision. "One day, Canadians woke up to a legal reality in which millions of acres of land were recognized as never having been acquired by the Crown," which would have "immediate implications for other areas of the country where no treaties ceding land ownership were ever signed."[6]

Two years later, in 1999, the ruling known as the *Marshall* decision affirmed that when the Mi'kmaq, Maliseet, and Passamaquoddy First Nations, largely based in New Brunswick and Nova Scotia, signed "peace and friendship" treaties with the British Crown in 1760 and 1761, they did not—as so many Canadians then assumed—agree to give up rights to their ancestral lands. Rather they were agreeing to *share* them with settlers on the condi-

tion that the First Nations could continue to use those lands for traditional activities like fishing, trading, and ceremony. The case was sparked by a single fisherman, Donald Marshall Jr., catching eels out of season and without a license; the court ruled that it was within the rights of the Mi'kmaq and Maliseet to fish year-round enough to earn a "moderate livelihood" where their ancestors had fished, exempting them from many of the rules set by the federal government for the non-Native fishing fleet.[7]

Many other North American treaties contained similar resource-sharing provisions. Treaty 6, for instance, which covers large parts of the Alberta tar sands region, contains clear language stating that "Indians, shall have right to pursue their avocations of hunting and fishing throughout the tract surrendered"—in other words, they surrendered only their *exclusive* rights to the territory and agreed that the land would be used by both parties, with settlers and Indigenous peoples pursuing their interests in parallel.[8]

But any parallel, peaceful coexistence is plainly impossible if one party is irrevocably altering and poisoning that shared land. And indeed, though it is not written in the text of the treaty, First Nations elders living in this region contend that Indigenous negotiators gave permission for the land to be used by settlers only "to the depth of a plow"—considerably less than the cavernous holes being dug there today. In the agreements that created modern-day North America such land-sharing provisions form the basis of most major treaties.

In Canada, the period after the Supreme Court decisions was a tumultuous one. Federal and provincial governments did little or nothing to protect the rights that the judges had affirmed, so it fell to Indigenous people to go out on the land and water and assert them—to fish, hunt, log, and build ceremonial structures, often without state permission. The backlash was swift. Across the country non-Native fishers and hunters complained that the "Indians" were above the law, that they were going to empty the oceans and rivers of fish, take all the good game, destroy the woods, and on and on. (Never mind the uninterrupted record of reckless resource mismanagement by all levels of the Canadian government.)

Tensions came to a head in the Mi'kmaq community of Burnt Church, New Brunswick. Enraged that the *Marshall* decision had empowered Mi'kmaq people to exercise their treaty rights and fish outside of



government-approved seasons, mobs of non-Native fishermen launched a series of violent attacks on their Native neighbors. In what became known as the Burnt Church Crisis, thousands of Mi'kmaq lobster traps were destroyed, three fish-processing plants were ransacked, a ceremonial arbor was burned to the ground, and several Indigenous people were hospitalized after their truck was attacked. And it wasn't just vigilante violence. As the months-long crisis wore on, government boats staffed with officials in riot gear rammed into Native fishing boats, sinking two vessels and forcing their crews to jump to safety in the water. The Mi'kmaq fishers did their best to defend themselves, with the help of the Mi'kmaq Warrior Society, but they were vastly outnumbered and an atmosphere of fear prevailed for years. The racism was so severe that at one point a non-Native fisherman put on a long-haired wig and performed a cartoonish "war dance" on the deck of his boat in front of delighted television crews.

That was 2000. In 2013, a little more than an hour's drive down the coast from Burnt Church, the same Mi'kmaq Warrior Society was once again in the news, this time because it had joined with the Elsipogtog First Nation to fend off the Texas company at the center of the province's fracking showdown. But the mood and underlying dynamics could not have been more different. This time, over months of protest, the warriors helped to light a series of ceremonial sacred fires and explicitly invited the non-Native community to join them on the barricades "to ensure that the company cannot resume work to extract shale gas via fracking." A statement explained, "This comes as part of a larger campaign that reunites Indigenous, Acadian & Anglo people." (New Brunswick has a large French-speaking Acadian population, with its own historical tensions with the English-speaking majority.)[9]

Many heeded the call and it was frequently noted that protests led by the Elsipogtog First Nation were remarkably diverse, drawing participants from all of the province's ethnic groups, as well as from First Nations across the country. As one non-Native participant, Debbi Hauper, told a video crew, "It's just a real sense of togetherness. We are united in what is most important. And I think we're seeing more and more of government and industries' methods of trying to separate us. And let's face it, these methods have worked for decades. But I think we're waking up."[10]

with its 92,000 employees across more than seventy countries and 2013 global revenues of $451.2 billion. Many communities see odds like these and, understandably, never even get in the ring.[25]

It is this gap between rights and resources—between what the law says and what impoverished people are able to force vastly more powerful entities to do—that government and industry have banked on for years.

## "Honour the Treaties"

What is changing is that many non-Native people are starting to realize that Indigenous rights—if aggressively backed by court challenges, direct action, and mass movements demanding that they be respected—may now represent the most powerful barriers protecting all of us from a future of climate chaos.

Which is why, in many cases, the movements against extreme energy extraction are becoming more than just battles against specific oil, gas, and coal companies and more, even, than pro-democracy movements. They are opening up spaces for a historical reconciliation between Indigenous peoples and non-Natives, who are finally understanding that, at a time when elected officials have open disdain for basic democratic principles, Indigenous rights are not a threat, but a tremendous gift. Because the original Indigenous treaty negotiators in much of North America had the foresight to include language protecting their right to continue living off their traditional lands, they bequeathed to all residents of these and many other countries the legal tools to demand that our governments refrain from finishing the job of flaying the planet.

And so, in communities where there was once only anger, jealousy, and thinly veiled racism, there is now something new and unfamiliar. "We're really thankful for our First Nations partners in this struggle," said Lionel Conant, a property manager whose home in Fort St. James, British Columbia, is within sight of the proposed Northern Gateway pipeline. "[They've] got the legal weight to deal with [the pipeline] . . . because this is all unceded land." In Washington State, anti-coal activists talk about the treaty rights of the Lummi as their "ace in the hole" should all other methods of blocking the export terminals fail. In Montana, the Sierra Club's Mike Scott told me bluntly, "I don't think people understand the political power Natives have as sovereign nations, often because they lack the resources to exercise that power. They can stop energy projects in a way we can't."[26]



In New Brunswick, Suzanne Patles, a Mi'kmaq woman involved in the anti-fracking movement, described how non-Natives "have reached out to the Indigenous people to say 'we need help.'"[27] Which is something of a turnaround from the saviorism and pitying charity that have poisoned relationships between Indigenous peoples and well-meaning liberals for far too long.

It was in the context of this gradual shift in awareness that Idle No More burst onto the political scene in Canada at the end of 2012 and then spread quickly south of the border. North American shopping centers—from the enormous West Edmonton Mall to Minnesota's Mall of America—were suddenly alive with the sounds of hand drums and jingle dresses as Indigenous people held flash mob round dances across the continent at the peak of the Christmas shopping season. In Canada, Native leaders went on hunger strikes, and youths embarked on months-long spiritual walks and blockaded roads and railways.

The movement was originally sparked by a series of attacks by the Canadian government on Indigenous sovereignty, as well as its all-out assault on existing environmental protections, particularly for water, to pave the way for rapid tar sands expansion, more mega-mines, and projects like Enbridge's Northern Gateway pipeline. The attacks came in the form of two omnibus budget bills passed in 2012 that gutted large parts of the country's environmental regulatory framework. As a result, a great many industrial activities were suddenly exempt from federal environmental reviews, which along with other changes, greatly reduced opportunities for community input and gave the intractable right-wing government of Stephen Harper a virtual free hand to ram through unpopular energy and development projects. The omnibus bills also overhauled key provisions of the Navigable Waters Protection Act that protect species and ecosystems from damage. Previously, virtually 100 percent of the country's water bodies had been covered by these protections; under the new order, that was slashed to less than 1 per-

cent, with pipelines simply exempted. (Documents later revealed that the latter change had been specifically requested by the pipeline industry.)[28]

Canadians were in shock at the extent and speed of the regulatory overhaul. Most felt powerless, and with good reason: despite winning only 39.6 percent of the popular vote, the Harper government had a majority in Parliament and could apparently do as it pleased.[29] But the First Nations' response was not to despair; it was to launch the Idle No More movement from coast to coast. These laws, movement leaders said, were an attack on Indigenous rights to clean water and to maintain traditional ways of life. Suddenly, the arguments that had been made in local battles were being taken to the national level, now used against sweeping federal laws. And for a time Idle No More seemed to change the game, attracting support from across Canadian society, from trade unions to university students, to the opinion pages of mainstream newspapers.

These coalitions of rights-rich-but-cash-poor people teaming up with (relatively) cash-rich-but-rights-poor people carry tremendous political potential. If enough people demand that governments honor the legal commitments made to the people on whose land colonial nations were founded, and do so with sufficient force, politicians interested in reelection won't be able to ignore them forever. And the courts, too—however much they may claim to be above such influences—are inevitably shaped by the values of the societies in which they function. A handful of courageous rulings notwithstanding, if an obscure land right or treaty appears to be systematically ignored by the culture as a whole, it will generally be treated tentatively by the courts. If, however, the broader society takes those commitments seriously, then there is a far greater chance that the courts will follow.*

As Idle No More gained steam, many investors took notice. "For the

* Indeed, it may be no coincidence that in June 2014, the Supreme Court of Canada issued what may be its most significant indigenous rights ruling to date when it granted the Tsilhqot'in Nation a declaration of Aboriginal title to 1,750 square kilometers of land in British Columbia. The unanimous decision laid out that ownership rights included the right to use the land, to decide how the land should be used by others, and to derive economic benefit from the land. Government, it also stated, must meet certain standards before stepping in, and seek not only consultation with First Nations, but consent from them. Many commented that it would make the construction of controversial projects like tar sands pipelines—rejected by local First Nations—significantly more difficult.



first time in six years, Canadian provinces failed to top the list of the best mining jurisdictions in the world in a 2012/13 survey," Reuters reported in March 2013. "Companies that participated in the survey said they were concerned about land claims." The article quoted Ewan Downie, chief executive of Premier Gold Mines, which owns several projects in Ontario: "I would say one of the big things that is weighing on mining investment in Canada right now is First Nations issues."[30]

Writing in *The Guardian*, journalist and activist Martin Lukacs observed that Canadians seemed finally to be grasping that

> implementing Indigenous rights on the ground, starting with the United Nations Declaration on the Rights of Indigenous Peoples, could tilt the balance of stewardship over a vast geography: giving Indigenous peoples much more control, and corporations much less. Which means that finally honoring Indigenous rights is not simply about paying off Canada's enormous legal debt to First Nations: it is also our best chance to save entire territories from endless extraction and destruction. In no small way, the actions of Indigenous peoples—and the decision of Canadians to stand alongside them—will determine the fate of the planet.
>
> This new understanding is dawning on more Canadians. Thousands are signing onto educational campaigns to become allies to First Nations. . . . Sustained action that puts real clout behind Indigenous claims is what will force a reckoning with the true nature of Canada's economy—and the possibility of a transformed country. That is the promise of a growing mass protest movement, an army of untold power and numbers.[31]

In short, the muscle able to turn rights into might that Standard & Poor's had been looking for in that meeting with Arthur Manuel and Guujaaw back in 2004 may have finally developed.

The power of this collaboration received another boost in January 2014 when the rock legend Neil Young kicked off a cross-Canada tour called "Honour the Treaties." He had visited the tar sands several months earlier and been devastated by what he saw, saying (to much controversy) that the region "looks like Hiroshima." While in the region, he had met with Chief

Allan Adam of the Athabasca Chipewyan and heard about the lawsuits opposing Shell's tar sands expansions, as well as the health impacts current levels of oil production are already having on the community. "I was sitting with the chief in the teepee, on the reserve. I was hearing the stories. I saw that the cancer rate was up among all the tribes. This is not a myth. This is true," Young said.[32]

And he concluded that the best way he could contribute to the fight against the tar sands was to help the Athabasca Chipewyan First Nation exercise its rights in court. So he went on a concert tour, donating 100 percent of the proceeds to the court challenges. In addition to raising $600,000 for their legal battles within two months, the tour attracted unprecedented national attention to both the local and global impacts of runaway tar sands development. The prime minister's office fought back by attacking one of Canada's most beloved icons, but it was a losing battle. Prominent Canadians spoke up to support the campaign, and polls showed that even in Alberta a majority were taking Young's side in the dispute.[33]

Most importantly, the Honour the Treaties tour sparked a national discussion about the duty to respect First Nation legal rights. "It's up to Canadians all across Canada to make up their own minds about whether their integrity is threatened by a government that won't live up to the treaties that this country is founded on," Young said. And the country heard directly from Chief Allan Adam, who described the treaties his ancestors signed as "not just pieces of paper but a last line of defense against encroaching reckless tar sands development that my people don't want and that we are already suffering from."[34]

## The Moral Imperative of Economic Alternatives

Making the most of that last line of defense is a complex challenge involving much more than rock concerts and having cash in hand to pay lawyers. The deeper reason why more First Nations communities aren't taking on companies like Shell has to do with the systematic economic and social disenfranchisement that makes doing business with heavily polluting oil or mining companies seem like the only way to cover basic human needs. Yes, there is a desire to protect the rivers, streams, and oceans for traditional



fishing. But in Canada, according to a 2011 government report, the water systems in 25 percent of First Nations communities are so neglected and underfunded that they pose a "high overall risk" to health, while thousands of residents of Native reserves are living without sewage or running water at all. If you are the leader of one such community, getting those basic services taken care of, no matter the cost, is very likely going to supersede all other priorities.[35]

And ironically, in many cases, climate change is further increasing the economic pressure on Indigenous communities to make quick-and-dirty deals with extractive industries. That's because disruptive weather changes, particularly in northern regions, are making it much harder to hunt and fish (for example when the ice is almost never solid, communities in the far north become virtually trapped, unable to harvest food for months on end). All this makes it extremely hard to say no to offers of job training and resource sharing when companies like Shell come to town. Members of these communities know that the drilling will only make it harder to engage in subsistence activities—there are real concerns about the effects of oil development on the migration of whales, walruses, and caribou—and that's without the inevitable spills. But precisely because the ecology is already so disrupted by climate change, there often seems no other option.

The paucity of good choices is perhaps best on display in Greenland, where receding glaciers and melting ice are revealing a vast potential for new mines and offshore oil exploration. The former Danish colony gained home rule in 1979, but the Inuit nation still relies on an annual infusion of more than $600 million (amounting to a full third of the economy) from Denmark. A 2008 self-governance referendum gave Greenland still more control over its own affairs, but also put it firmly on the path of drilling and mining its way to full independence. "We're very aware that we'll cause more climate change by drilling for oil," a top Greenlandic official, then heading the Office of Self-Governance, said in 2008. "But should we not? Should we not when it can buy us our independence?" Currently, Greenland's largest industry is fishing, which of course would be devastated by a major spill. And it doesn't bode well that one of the companies selected to begin developing Greenland's estimated fifty billion barrels of offshore oil and gas is none other than BP.[36]

Indeed the melancholy dynamic strongly recalls BP's "vessels of oppor-

tunity" program launched in the midst of the Deepwater Horizon disaster. For months, virtually the entire Louisiana fishing fleet was docked, unable to make a living for fear that the seafood was unsafe. That's when BP offered to convert any fishing vessel into a cleanup boat, providing it with booms to (rather uselessly) mop up some oil. It was tremendously difficult for local shrimpers and oystermen to take work from the company that had just robbed them of their livelihood—but what choice did they have? No one else was offering to help pay the bills. This is the way the oil and gas industry holds on to power: by tossing temporary life rafts to the people it is drowning.

That many Indigenous people would view the extractive industries as their best of a series of bad options should not be surprising. There has been almost no other economic development in most Native communities, no one else offering jobs or skills training in any quantity. So in virtually every community on the front lines of extractive battles, some faction invariably makes the argument that it's not up to Indigenous people to sacrifice to save the rest of the world from climate change, that they should concentrate instead on getting better deals from the mining and oil companies so that they can pay for basic services and train their young people in marketable skills. Jim Boucher, chief of the Fort McKay First Nation, whose lands have been decimated by the Alberta tar sands, told an oil-industry-sponsored conference in 2014, "There is no more opportunity for our people to be employed or have some benefits except the oil sands"—going so far as to call the mines the "new trap line," a reference to the fur trade that once drove the economics of the region.[37]

Sadly, this argument has created rancorous divisions and families are often torn apart over whether to accept industry deals or to uphold traditional teachings. And as the offers from industry become richer (itself a sign of Blockadia's growing power), those who are trying to hold the line too often feel they have nothing to offer their people but continued impoverishment. As Phillip Whiteman Jr., a traditional Northern Cheyenne storyteller and longtime opponent of coal development, told me, "I can't keep asking my people to suffer with me."[38]

These circumstances raise troubling moral questions for the rising Blockadia movement, which is increasingly relying on Indigenous people



to be the legal barrier to new, high-carbon projects. It's fine and well to laud treaty and title rights as the "last line of defense" against fossil fuel extraction. But if non-Native people are going to ask some of the poorest, most systematically disenfranchised people on the planet to be humanity's climate saviors, then, to put it crassly, what are we going to do for them? How can this relationship not be yet another extractive one, in which non-Natives use hard-won Indigenous rights but give nothing or too little in return? As the experience with carbon offsets shows, there are plenty of examples of new "green" relationships replicating old patterns. Large NGOs often use Indigenous groups for their legal standing, picking up some of the costs for expensive legal battles but not doing much about the underlying issues that force so many Indigenous communities to take these deals in the first place. Unemployment stays sky high. Options, for the most part, stay bleak.

If this situation is going to change, then the call to Honour the Treaties needs to go a whole lot further than raising money for legal battles. Non-Natives will have to become the treaty and land-sharing partners that our ancestors failed to be, making good on the full panoply of promises they made, from providing health care and education to creating economic opportunities that do not jeopardize the right to engage in traditional ways of life. Because the only people who will be truly empowered to say no to dirty development over the long term are people who see real, hopeful alternatives. And this is true not just within wealthy countries but between the countries of the wealthy postindustrial North and the fast-industrializing South.

erything is born in these wetlands," he said.[4] Unless, of course, something interferes with the process.

When fish are in their egg and larval phases, they have none of the defensive tools available to more mature animals. These tiny creatures travel where the tides carry them, unable to avoid whatever poison crosses their path. And at this early stage of development, exquisitely fragile membranes offer no protection from toxins; even negligible doses can cause death or mutation.

As far as Henderson was concerned, the prospects for these microscopic creatures did not look good. Each wave brought in more oil and dispersants, sending levels of carcinogenic polycyclic aromatic hydrocarbons (PAHs) soaring. And this was all happening at the absolute worst possible moment on the biological calendar: not only shellfish, but also bluefin tuna, grouper, snapper, mackerel, swordfish, and marlin were all spawning during these same key months. Out in the open water, floating clouds of translucent proto-life were just waiting for one of the countless slicks of oil and dispersants to pass through them like an angel of death. As John Lamkin, a fisheries biologist for the National Oceanic and Atmospheric Administration, put it: "Any larvae that came into contact with the oil doesn't have a chance."[5]

Unlike the oil-coated pelicans and sea turtles, which were being featured on the covers of the world's newspapers that week, these deaths would attract no media attention, just as they would go uncounted in the official assessments of the spill's damage. Indeed, if a certain species of larva was in the process of being snuffed out, we would likely not find out about it for years—until those embryonic life-forms would have normally reached maturity. And then, rather than some camera-ready mass die-off, there would just be . . . nothing. An absence. A hole in the life cycle.

That's what happened to the herring after the *Exxon Valdez* disaster. For three years after the spill, herring stocks were robust. But in the fourth, populations suddenly plummeted by roughly three quarters. The next year, there were so few, and they were so sick, that the herring fishery in Prince William Sound was closed. The math made sense: the herring that were in their egg and larval stages at the peak of the disaster would have been reaching maturity right about then.[6]



This was the kind of delayed disaster that Henderson was worried about as he peered into the marsh grass. When we reached Redfish Bay, usually a sport-fishing paradise, we cut the engine on the *Flounder Pounder* and drifted for a while in silence, taking video of the oily sheen that covered the water's surface.

As our boat rocked in that terrible place—the sky buzzing with Black Hawk helicopters and snowy white egrets—I had the distinct feeling that we were suspended not in water but in amniotic fluid, immersed in a massive multi-species miscarriage. When I learned that I too was in the early stages of creating an ill-fated embryo, I started to think of that time in the marsh as my miscarriage inside a miscarriage.

It was then that I let go of the idea that infertility made me some sort of exile from nature, and began to feel what I can only describe as a kinship of the infertile. It suddenly dawned on me that I was indeed part of a vast biotic community, and it was a place where a great many of us—humans and nonhuman alike—found ourselves engaged in an uphill battle to create new living beings.

## A Country for Old Men

For all the talk about the right to life and the rights of the unborn, our culture pays precious little attention to the particular vulnerabilities of children, let alone developing life. When drugs and chemicals are approved for safe use and exposure, risk assessments most often focus on the effects on adults. As biologist Sandra Steingraber has observed, "Entire regulatory systems are premised on the assumption that all members of the population basically act, biologically, like middle-aged men. . . . Until 1990, for example, the reference dose for radiation exposure was based on a hypothetical 5'7" tall white man who weighed 157 pounds." More than three quarters of the mass-produced chemicals in the United States have never been tested for their impacts on fetuses or children. That means they are being released in the environment with no consideration for how they will impact those who weigh, say, twenty pounds, like your average one-year-old girl, let alone a half-pound, like a nineteen-week fetus.[7]

And yet when clusters of infertility and infant illness arise, they very often are the first warning signs of a broader health crisis. For instance, for years it seemed that while there were certainly water and air safety issues associated with fracking, there was no clear evidence that the practice was seriously impacting human health. But in April 2014, researchers with the Colorado School of Public Health and Brown University published a peer-reviewed study looking at birth outcomes in rural Colorado, where a lot of fracking is under way. It found that mothers living in the areas with the most natural gas development were 30 percent more likely to have babies with congenital heart defects than those who lived in areas with no gas wells near their homes. They also found some evidence that high levels of maternal exposure to gas extraction increased the risks of neurological defects.[8]

At around the same time, academics at Princeton, Columbia, and MIT gave a talk at the annual meeting of the American Economic Association, where they presented preliminary findings of a still unpublished study based on Pennsylvania birth records from 2004 to 2011. As Mark Whitehouse of *Bloomberg View* reported (he was one of the few journalists who saw their talk), "They found that proximity to fracking increased the likelihood of low birth weight by more than half, from about 5.6 percent to more than 9 percent. The chances of a low Apgar score, a summary measure of the health of newborn children, roughly doubled."[9]

These kinds of infant health impacts—and much worse—are all too familiar in communities that live in closest proximity to the dirtiest parts of our fossil fuel economy. For instance, the Aamjiwnaang First Nation, which is located just south of the industrial city of Sarnia in southern Ontario, has been the subject of intense scientific scrutiny because of its "lost boys." Up until 1993, the number of boys and girls born to the small Indigenous community was pretty much in keeping with the national average, with slightly more boys than girls. But as people continued living near the petrochemical plants, which had earned the region the nickname "Chemical Valley," that changed. By 2003, the day care was filled with girls and just a handful of boys, and there were years when the community could barely scrape together enough boys to form a baseball or hockey team. Sure enough, a study of birth records confirmed that by the end of the period between 1993 and 2003, twice as many girls as boys had been born on the reserve. Between 1999 and 2003, just 35 percent of Aamjiwnaang's births were boys—"one of the steepest declines ever reported in the ratio of boys to girls," as *Men's Health* magazine revealed in a 2009 exposé. Studies also found that 39 percent of Aamjiwnaang's women had had miscarriages, compared with roughly 20 percent in the general female population. Research published in 2013 showed that hormone-disrupting chemicals may be to blame, since women and children in the area had higher-than-average levels of PCBs in their bodies.[10]



I heard similar fertility horror stories in Mossville, Lousiana, a historic African-American town near Lake Charles. More than half of its two thousand families have left in recent years, fleeing the relentless pollution from their uninvited next-door neighbors: a network of massive industrial plants that convert the oil and gas pumped out of the Gulf into petroleum, plastics, and chemicals. Mossville is a textbook case of environmental racism: founded by freed slaves, it was once a safe haven for its residents, who enjoyed comfortable lives thanks in part to the rich hunting and fishing grounds in the surrounding wetlands. But beginning in the 1930s and 1940s, state politicians aggressively courted petrochemical and other industries with lavish tax breaks, and one giant plant after another set up shop on Mossville's doorstep, some just a few hundred feet from the clapboard homes. Today, fourteen chemical plants and refineries surround the town, including the largest concentration of vinyl production facilities in the U.S. Many of the hulking structures appear to be made entirely of metal pipes; spires in menacing chemical cathedrals. Roaring machinery spews emissions twenty-four hours a day, while floodlights and flares ignite the night sky.[11]

Accidental leaks are commonplace and explosions are frequent. But even when factories are running smoothly, they spew approximately four million pounds of toxic chemicals into the surrounding soil, air, and groundwater each year.[12] Before arriving in Mossville, I had heard about cancer and respiratory illnesses, and I knew that some residents have dioxin levels three times the national average. What I was unprepared for were the stories of miscarriages, hysterectomies, and birth defects.

Debra Ramirez, who after years of struggle was finally forced to aban-

don her home and move to Lake Charles, described Mossville to me as "a woman's womb of chemicals. And we're dying in that womb." Having just left BP's aquatic miscarriage, I found the idea of a toxic womb particularly chilling. It became more so after Ramirez shared part of her own family's health history. She had undergone a hysterectomy three decades earlier. So had all three of her sisters and her daughter. "It was just repeating from generation to generation," she said. Five hysterectomies in one family might have been bad genetic luck. But then Ramirez showed me footage from a town hall special that CNN's Dr. Sanjay Gupta had hosted on this "toxic town." On camera, Ramirez told the visiting correspondent that she had had a total hysterectomy, "like most young women do in this area." Taken aback, Gupta asked the rest of the women in the room whether they had had hysterectomies—multiple women answered yes, nodding silently. And yet despite the many studies that have sought to document the impact of toxins on human health in Mossville, not one has looked closely at their impact on fertility.[13]

Perhaps this should come as no surprise. As a culture, we do a very poor job of protecting, valuing, or even noticing fertility—not just among humans but across life's spectrum. Indeed vast amounts of money and cutting-edge technology are devoted to practices that actively interfere with the life cycle. We have a global agricultural model that has succeeded in making it illegal for farmers to engage in the age-old practice of saving seeds, the building blocks of life, so that new seeds have to be repurchased each year. And we have a global energy model that values fossil fuels over water, where all life begins and without which no life can survive.

Our economic system, meanwhile, does not value women's reproductive labor, pays caregivers miserably, teachers almost as badly, and we generally hear about female reproduction only when men are trying to regulate it.

## BP's Legacy and a "Handful of Nothing"

If we tend to neglect the impact our industrial activities are having on human reproduction, the more vulnerable nonhumans fare significantly worse. A case in point is the risk assessment report that BP produced ahead



of the Gulf Coast disaster. Before securing approval to drill in such deep water, the company had to produce a credible plan assessing what would happen to the ecosystem in the event of a spill, and what the company would do to respond. With the risk minimization that is one of the industry's hallmarks, the company confidently predicted that many adult fish and shellfish would be able to survive a spill whether by swimming away or by "metaboliz[ing] hydrocarbons," while marine mammals like dolphins might experience some "stress."[14] Conspicuously absent from the report are the words "eggs," "larvae," "fetus," and "juvenile." In other words, the working assumption, once again, was that we live in a world where all creatures are already fully grown.

That, unsurprisingly, proved to be a tragic assumption. Just as was feared in the early days of the spill, one of the most lasting legacies of the BP disaster may well be an aquatic infertility crisis, one that in some parts of the Gulf could reverberate for decades if not longer. Two years after the spill, Donny Waters, a large-scale fisherman in Pensacola, Florida, who primarily catches red snapper and grouper, reported, "We don't see any significant numbers of small fish"—a reference to the young fish that would have been in their larval stage at the peak of the disaster. That had not yet impacted the commercial catch since small fish are released anyway. But Waters, who holds one of the largest individual fishing quotas in the Pensacola area, worried that when 2016 or 2017 rolls around—when those small fish would normally be reaching maturity—he and his colleagues will be hauling in their lines only to "come up with a handful of nothing."[15]

One year after the spill, shrimpers, crabbers, and oystermen working in some of the most affected parts of Louisiana and Mississippi also began to report sharply reduced catches—and in some areas, that female crabs were relatively scarce, and that many of those caught during spawning season didn't have any eggs. (Some shellfish catches in these areas have shown improvement, but reports of missing or egg-less female crabs have persisted; similar signs of reproductive impairment have been observed in the shrimp and oyster fisheries.)[16]

The precise contribution of the spill to these fertility problems remains unclear as much of the research is still incomplete—but a growing body of scientific data adds weight to anecdotal reports from of fishing crews.

In one study, for instance, researchers sampled oysters after the spill and found alarmingly elevated concentrations of three heavy metals contained in petroleum—with 89 percent of the oysters also displaying a form of metaplasia, or stress-related tissue abnormality that is known to interfere with reproduction. Another study, this one by researchers at the Georgia Institute of Technology, tested the impact of BP oil mixed with Corexit on rotifers—microscopic animals at the bottom of the food web—which "provide food for baby fish, shrimp and crabs in estuaries." It found that even tiny amounts of the mixture "inhibited rotifer egg hatching by 50 percent."[17]

Perhaps most worrying are the findings of Andrew Whitehead, a biology professor at the University of California, Davis, who has conducted a series of studies with colleagues on the impact of BP's oil on one of the most abundant fish in the Gulf marshes, the minnow-sized killifish. He found that when killifish embryos were exposed to sediments contaminated with BP oil (including sediment samples collected over a year after the spill), "these embryos are getting whacked. . . . They're not growing, developing properly, they're not hatching out properly. They've got cardiovascular system developmental problems, their hearts aren't forming properly."[18]

Missing fish don't tend to make the news; for one thing, there are no pictures, just a "handful of nothing," as Waters feared. But that is decidedly not the case when baby dolphins start dying en masse, which is what happened in early 2011. In the month of February alone, NOAA's National Marine Fisheries Service reported that thirty-five dead baby dolphins had been collected on Gulf Coast beaches and in marshes—an eighteen-fold increase from the usual number (only two dead baby dolphins are found in a typical February). By the end of April 2014, 235 baby bottlenose dolphins had been discovered along the Gulf Coast, a staggering figure since scientists estimate that the number of cetacean corpses found on or near shore represents only 2 percent of the "true death toll"; the rest are never found.[19]

After examining the dolphins, NOAA scientists discovered that some of the calves had been stillborn, while others died days after birth. "Something has happened that these animals are now either aborting or the animals are not fit enough to survive," said Moby Solangi, the executive director of the Institute for Marine Mammal Studies (IMMS) in Gulfport, Mississippi, and one of the scientists investigating the incidents.*[20]

The deaths took place during the first birthing season for bottlenose dolphins since the BP disaster. That means that for much of their twelve-month gestation period, these calves were developing inside mothers who very likely swam in waters polluted with oil and chemical dispersant and who may well have inhaled toxic fumes when they surfaced to breathe. Metabolizing hydrocarbons is hard work and could have made the dolphins significantly more vulnerable to bacteria and diseases. Which might explain why, when NOAA-led scientists examined twenty-nine dolphins off the Louisiana coast, they found high levels of lung disease, as well as strikingly low levels of cortisol, an indication of adrenal insufficiency and a severely compromised ability to respond to stress. They also found one dolphin that was pregnant with a five-month-old "nonviable" fetus—an extremely rare occurrence in dolphins, indeed one undocumented in the scientific literature up until this incident. "I've never seen such a high prevalence of very sick animals—and with unusual conditions such as the adrenal hormone abnormalities," said Lori Schwacke, lead author of a paper on these findings that was published in late 2013. Commenting on the study, NOAA warned that the dolphins would "likely" face "reduced survival and ability to reproduce."[21]

The spill wasn't the only added stress these animals faced in this fateful period. The winter of 2010–2011 saw an abnormally heavy snowfall in the region, a phenomenon scientists have linked to climate change. When the huge snowpack melted, it sent torrents of freshwater into the Gulf of Mexico, where it not only dangerously lowered salinity and temperature levels for mammals accustomed to warm saltwater, but likely combined with the oil and dispersant to create an even more dangerous mess for dolphins and other cetaceans. As Ruth Carmichael, senior marine scientist at the Dauphin Island Sea Lab, explains, "These freight trains of cold fresh water may have assaulted [the dolphins], essentially kicking them when they were already down."[22]

This is the one-two punch of an economy built on fossil fuels: lethal when extraction goes wrong and the interred carbon escapes at the source; lethal when extraction goes right and the carbon is successfully released into the atmosphere. And catastrophic when these two forces combine in one ecosystem, as they did that winter on the Gulf Coast.

* The dolphin die-off did not restrict itself to the young. By the end of April 2014, over one thousand dead dolphins, of all ages, had been discovered along the Gulf Coast, part of what NOAA termed an "unusual mortality event." Those numbers only scratch the surface of the death toll.

that economies powered by 100 percent renewable energy were within our grasp. Only the isolated few dared question the logic of economic growth. And few climate scientists were willing to speak bluntly about the political implications of their work for our frenzied consumer culture. All of this has changed so rapidly as I have been writing that I have had to race to keep up. Yes, ice sheets are melting faster than the models projected, but resistance is beginning to boil. In these existing and nascent movements we now have a clear glimpses of the kind of dedication and imagination demanded of everyone who is alive and breathing during climate change's "decade zero."

Because the carbon record doesn't lie. And what that record tells us is that emissions are still rising: every year we release more greenhouse gases than the year before, the growth rate increasing from one decade to the next—gases that will trap heat for generations to come, creating a world that is hotter, colder, wetter, thirstier, hungrier, angrier. So if there is any hope of reversing these trends, glimpses won't cut it; we will need the climate revolution playing on repeat, all day every day, everywhere.

Werner was right to point out that mass resistance movements have grabbed the wheel before and could very well do so again. At the same time, we must reckon with the fact that lowering global emissions in line with climate scientists' urgent warnings demands changes of a truly daunting speed and scale. Meeting science-based targets will mean forcing some of the most profitable companies on the planet to forfeit trillions of dollars of future earnings by leaving the vast majority of proven fossil fuel reserves in the ground.[7] It will also require coming up with trillions more to pay for zero-carbon, disaster-ready societal transformations. And let's take for granted that we want to do these radical things democratically and without a bloodbath, so violent, vanguardist revolutions don't have much to offer in the way of road maps.

The crucial question we are left with, then, is this: has an economic shift of this kind *ever* happened before in history? We know it can happen during wartime, when presidents and prime ministers are the ones commanding the transformation from above. But has it ever been demanded from below, by regular people, when leaders have wholly abdicated their responsibilities? Having combed through the history of social movements in search of precedents, I must report that the answer to that question is



predictably complex, filled with "sort ofs" and "almosts"—but also at least one "yes."

In the West, the most common precedents invoked to show that social movements really can be a disruptive historical force are the celebrated human rights movements of the past century—most prominently, civil, women's, and gay and lesbian rights. And these movements unquestionably transformed the face and texture of the dominant culture. But given that the challenge for the climate movement hinges on pulling off a profound and radical *economic* transformation, it must be noted that for these movements, the legal and cultural battles were always more successful than the economic ones.

The U.S. civil rights movement, for instance, fought not only against legalized segregation and discrimination but also *for* massive investments in schools and jobs programs that would close the economic gap between blacks and whites once and for all. In his 1967 book, *Where Do We Go from Here: Chaos or Community?*, Martin Luther King Jr. pointed out that, "The practical cost of change for the nation up to this point has been cheap. The limited reforms have been obtained at bargain rates. There are no expenses, and no taxes are required, for Negroes to share lunch counters, libraries, parks, hotels and other facilities with whites. . . . The real cost lies ahead. . . . The discount education given Negroes will in the future have to be purchased at full price if quality education is to be realized. Jobs are harder and costlier to create than voting rolls. The eradication of slums housing millions is complex far beyond integrating buses and lunch counters."[8]

And though often forgotten, the more radical wing of the second-wave feminist movement also argued for fundamental challenges to the free market economic order. It wanted women not only to get equal pay for equal work in traditional jobs but to have their work in the home caring for children and the elderly recognized and compensated as a massive unacknowledged market subsidy—essentially a demand for wealth redistribution on a scale greater than the New Deal.

But as we know, while these movements won huge battles against institutional discrimination, the victories that remained elusive were those that, in King's words, could not be purchased "at bargain rates." There would

be no massive investments in jobs, schools, and decent homes for African Americans, just as the 1970s women's movement would not win its demand for "wages for housework" (indeed paid maternity leave remains a battle in large parts of the world). Sharing legal status is one thing; sharing resources quite another.

If there is an exception to this rule it is the huge gains won by the labor movement in the aftermath of the Great Depression—the massive wave of unionization that forced owners to share a great deal more wealth with their workers, which in turn helped create a context to demand ambitious social programs like Social Security and unemployment insurance (programs from which the majority of African American and many women workers were notably excluded). And in response to the market crash of 1929, tough new rules regulating the financial sector were introduced at real cost to unfettered profit making. In the same period, social movement pressure created the conditions for the New Deal and programs like it across the industrialized world. These made massive investments in public infrastructure—utilities, transportation systems, housing, and more—on a scale comparable to what the climate crisis calls for today.

If the search for historical precedents is extended more globally (an impossibly large task in this context, but worth a try), then the lessons are similarly mixed. Since the 1950s, several democratically elected socialist governments have nationalized large parts of their extractive sectors and begun to redistribute to the poor and middle class the wealth that had previously hemorrhaged into foreign bank accounts, most notably Mohammad Mosaddegh in Iran and Salvador Allende in Chile. But those experiments were interrupted by foreign-sponsored coups d'état before reaching their potential. Indeed postcolonial independence movements—which so often had the redistribution of unjustly concentrated resources, whether of land or minerals, as their core missions—were consistently undermined through political assassinations, foreign interference, and, more recently, the chains of debt-driven structural adjustment programs (not to mention the corruption of local elites).

Even the stunningly successful battle against apartheid in South Africa suffered its most significant losses on the economic equality front. The country's freedom fighters were not, it is worth remembering, only demanding the right to vote and move freely. They were also, as the African National Congress's official policy platform, the Freedom Charter, made clear, struggling for key sectors of the economy—including the mines and the banks—to be nationalized, with their proceeds used to pay for the social programs that would lift millions in the townships out of poverty. Black South Africans won their core legal and electoral battles, but the wealth accumulated under apartheid remained intact, with poverty deepening significantly in the post-apartheid era.[9]



There have been social movements, however, that have succeeded in challenging entrenched wealth in ways that are comparable to what today's movements must provoke if we are to avert climate catastrophe. These are the movements for the abolition of slavery and for Third World independence from colonial powers. Both of these transformative movements forced ruling elites to relinquish practices that were still extraordinarily profitable, much as fossil fuel extraction is today.

The movement for the abolition of slavery in particular shows us that a transition as large as the one confronting us today has happened before—and indeed it is remembered as one of the greatest moments in human history. The economic impacts of slavery abolition in the mid-nineteenth century have some striking parallels with the impacts of radical emission reduction, as several historians and commentators have observed. Journalist and broadcaster Chris Hayes, in an award-winning 2014 essay titled "The New Abolitionism," pointed out "the climate justice movement is demanding that an existing set of political and economic interests be forced to say goodbye to trillions of dollars of wealth" and concluded that "it is impossible to point to any precedent other than abolition."[10]

There is no question that for a large sector of the ruling class at the time, losing the legal right to exploit men and women in bondage represented a major economic blow, one as huge as the one players ranging from Exxon to Richard Branson would have to take today. As the historian Greg Grandin has put it, "In the realm of economics, the importance of slaves went well beyond the wealth generated from their uncompensated labor. Slavery was the flywheel on which America's market revolution turned—not just in the United States, but in all of the Americas." In the eighteenth century, Caribbean sugar plantations, which were wholly dependent on slave labor,

were by far the most profitable outposts of the British Empire, generating revenues that far outstripped the other colonies. In *Bury the Chains*, Adam Hochschild quotes enthusiastic slave traders describing the buying and selling of humans as "the hinge on which all the trade of this globe moves" and "the foundation of our commerce . . . and first cause of our national industry and riches."[11]

While not equivalent, the dependency of the U.S. economy on slave labor—particularly in the Southern states—is certainly comparable to the modern global economy's reliance on fossil fuels.* According to historian Eric Foner, at the start of the Civil War, "slaves as property were worth more than all the banks, factories and railroads in the country put together." Strengthening the parallel with fossil fuels, Hayes points out that "in 1860, slaves represented about 16 percent of the total household assets—that is, all the wealth—in the entire [United States], which in today's terms is a stunning $10 trillion." That figure is very roughly similar to the value of the carbon reserves that must be left in the ground worldwide if we are to have a good chance of keeping warming below 2 degrees Celsius.[12]

But the analogy, as all acknowledge, is far from perfect. Burning fossil fuels is of course not the moral equivalent of owning slaves or occupying countries. (Though heading an oil company that actively sabotages climate science, lobbies aggressively against emission controls while laying claim to enough interred carbon to drown populous nations like Bangladesh and boil sub-Saharan Africa is indeed a heinous moral crime.) Nor were the movements that ended slavery and defeated colonial rule in any way bloodless: nonviolent tactics like boycotts and protests played major roles, but slavery in the Caribbean was only outlawed after numerous slave rebellions were brutally suppressed, and, of course, abolition in the United States came only after the carnage of the Civil War.

Another problem with the analogy is that, though the liberation of millions of slaves in this period—some 800,000 in the British colonies and four million in the U.S.—represents the greatest human rights victory of its time (or, arguably, any time), the economic side of the struggle was far less successful. Local and international elites often managed to extract steep payoffs to compensate themselves for their "losses" of human property, while offering little or nothing to former slaves. Washington broke its promise, made near the end of the Civil War, to grant freed slaves ownership of large swaths of land in the U.S. South (a pledge known colloquially as "40 acres and a mule"). Instead the lands were returned to former slave owners, who proceeded to staff them through the indentured servitude of sharecropping. Britain, as discussed, awarded massive paydays to its slave owners at the time of abolition. And France, most shockingly, sent a flotilla of warships to demand that the newly liberated nation of Haiti pay a huge sum to the French crown for the loss of its bonded workforce—or face attack.[13] Reparations, but in reverse.

The costs of these, and so many other gruesomely unjust extortions, are still being paid in lives, from Haiti to Mozambique. The reverse-reparations saddled newly liberated nations and people with odious debts that deprived them of true independence while helping to accelerate Europe's Industrial Revolution, the extreme profitability of which most certainly cushioned the economic blow of abolition. In sharp contrast, a real end to the fossil fuel age offers no equivalent consolation prizes to the major players in the oil, gas, and coal industries. Solar and wind can make money, sure. But by nature of their decentralization, they will never supply the kind of concentrated super-profits to which the fossil fuel titans have become all too accustomed. In other words, if climate justice carries the day, the economic costs to our elites will be real—not only because of the carbon left in the ground but also because of the regulations, taxes, and social programs needed to make the required transformation. Indeed, these new demands on the ultra rich could effectively bring the era of the footloose Davos oligarch to a close.

* The reliance was certainly not limited to the Southern states: cutting-edge historical research has been exploding long-held perceptions that the North and South of the United States had distinct and irreconcilable economies in this period. In fact, Northern industrialists and Wall Street were far more dependent on and connected to slavery than has often been assumed, and even some crucial innovations in scientific management and accounting can be traced to the American plantation economy.

## The Unfinished Business of Liberation

On one level, the inability of many great social movements to fully realize those parts of their visions that carried the highest price tags can be seen as a cause for inertia or even despair. If they failed in their plans to usher in a more equitable economic system, how can the climate movement hope to succeed?

There is, however, another way of looking at this track record: these economic demands—for basic public services that work, for decent housing, for land redistribution—represent nothing less than the unfinished business of the most powerful liberation movements of the past two centuries, from civil rights to feminism to Indigenous sovereignty. The massive global investments required to respond to the climate threat—to adapt humanely and equitably to the heavy weather we have already locked in, and to avert the truly catastrophic warming we can still avoid—is a chance to change all that; and to get it right this time. It could deliver the equitable redistribution of agricultural lands that was supposed to follow independence from colonial rule and dictatorship; it could bring the jobs and homes that Martin Luther King dreamed of; it could bring jobs and clean water to Native communities; it could at last turn on the lights and running water in every South African township. Such is the promise of a Marshall Plan for the Earth.

The fact that our most heroic social justice movements won on the legal front but suffered big losses on the economic front is precisely why our world is as fundamentally unequal and unfair as it remains. Those losses have left a legacy of continued discrimination, double standards, and entrenched poverty—poverty that deepens with each new crisis. But, at the same time, the economic battles the movements *did* win are the reason we still have a few institutions left—from libraries to mass transit to public hospitals—based on the wild idea that real equality means equal access to the basic services that create a dignified life. Most critically, all these past movements, in one form or another, are still fighting today—for full human rights and equality regardless of ethnicity, gender, or sexual orientation; for real decolonization and reparation; for food security and farmers' rights; against oligarchic rule; and to defend and expand the public sphere.



So climate change does not need some shiny new movement that will magically succeed where others failed. Rather, as the furthest-reaching crisis created by the extractivist worldview, and one that puts humanity on a firm and unyielding deadline, climate change can be the force—the grand push—that will bring together all of these still living movements. A rushing river fed by countless streams, gathering collective force to finally reach the sea. "The basic confrontation which seemed to be colonialism versus anticolonialism, indeed capitalism versus socialism, is already losing its importance," Frantz Fanon wrote in his 1961 masterwork, *The Wretched of the Earth*. "What matters today, the issue which blocks the horizon, is the need for a redistribution of wealth. Humanity will have to address this question, no matter how devastating the consequences may be."[14] Climate change is our chance to right those festering wrongs at last—the unfinished business of liberation.

Winning will certainly take the convergence of diverse constituencies on a scale previously unknown. Because, although there is no perfect historical analogy for the challenge of climate change, there are certainly lessons to learn from the transformative movements of the past. One such lesson is that when major shifts in the economic balance of power take place, they are invariably the result of extraordinary levels of social mobilization. At those junctures, activism becomes something that is not performed by a small tribe within a culture, whether a vanguard of radicals or a subcategory of slick professionals (though each play their part), but becomes an entirely normal activity throughout society—it's rent payers associations, women's auxiliaries, gardening clubs, neighborhood assemblies, trade unions, professional groups, sports teams, youth leagues, and on and on. During extraordinary historical moments—both world wars, the aftermath of the Great Depression, or the peak of the civil rights era—the usual categories dividing "activists" and "regular people" became meaningless because the project of changing society was so deeply woven into the project of life. Activists were, quite simply, everyone.

Which brings us back to where we started: climate change and bad timing. It must always be remembered that the greatest barrier to humanity rising to meet the climate crisis is not that it is too late or that we don't know what to do. There is just enough time, and we are swamped with