



CHAPTER 5

REVISITED FRONTIERS: THE BAKKEN, THE PLAINS, POTENTIAL FUTURES, AND REAL PASTS

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Thousands of emigrants, as our magazines have told us again and again, are thronging annually to the great plains of the Northwest, where wheat-farming has offered the home-seeker great financial opportunities. All Americans rejoice that these thousands of home-seekers are able to establish themselves financially. On the other hand, residents of the East, the South, or the Pacific Coast, who love a pleasing diversity of hill and dale, grove and meadow, lake and river, cannot but regret that millions of their fellows are doomed to live on the monotonous Western plain, and to gaze daily on a view which includes no hill, no valley, no grove of trees, no water, nothing but earth and wheat.

Wallace Craig (1908)

During the Bakken oil boom beginning in 2008, people from all over the United States would once again flock to North Dakota, lured by economic possibilities. In this boom, however, images of monotonous doom have had no place. In the curious historical frame of post-terror insecurities and anger, of rising, if reluctant, acknowledgment that climate change has real consequences, of post-Iraq realizations that it might not be possible to truly control oil abroad, and of living through an economic depression that wiped away jobs (yet left wealth intact), messages about the Bakken have been very clear. The oil boom, while a temporary inconvenience, has helped North Dakota stay out of economic trouble, has brought a population increase, has revitalized the state, and has put the state on the map. North Dakota became the poster child for the American dream after having languished in national amnesia, or worse, as the poster child for lonely abandonment, for decades. The message came (and comes) from official and unofficial state channels, was (and is, although with more question marks) picked up by the media, as well as by educational institutions. The Bakken is exciting, it is a chance to start

over, it is a new chapter for the state, and all of this is made possible by new technology: hydraulic fracturing and horizontal drilling. Here, I will not try to evaluate the claims made about economic, ecological, or social impact. I will not attempt to dissect and deconstruct political statements. I will not critique well counts, tax agreements, pipelines, flaring practices, or roads. All of these issues need to be addressed. However, in this text, I will simply put the Bakken into its context as a resource extraction boom. Booms—and busts, which people often forget in the excitement of a developing boom—are nothing new, and so, it would seem, a state undergoing a resource boom would be able to learn a lot from the experiences of past booms—and busts.

Resource booms are nothing new to North Dakota. In fact, the response of many communities in the Bakken region to the developing boom in its early years was guided by the experiences with the last oil boom, in the early 1980s, which ended in a bust very quickly. Not sure whether this new boom would last, experienced residents decided to adopt a wait-and-see attitude. Instead of risking investments into infrastructure that might lead to financial troubles again, perhaps the boom would blow over, and once the workers and their machines were gone, the communities could emerge more or less intact. This attitude, of course, shaped the response by the state, which placed considerable emphasis on the long-term nature of the boom (preferring not to speak of a boom, instead predicting that these developments would increase the population in communities three-fold, for the long term). Local challenges became regional opportunities, and this new boom was nothing like the earlier one. Hence, historical models would only be misleading. A new society was being built, with new technology, opening new opportunities. In fact, even if the events would not benefit the communities they were going to directly affect, they would at least provide security—energy security—to the rest of the nation. The potential futures projected onto graphs and into newspapers, onto whiteboards and screens, and most importantly into dreams and over frustrations, were millennial and sometimes bordering on the messianic.

The history of the United States, is, of course, permeated with the idea of building new societies, a shining city on the hill, the new Jerusalem—communities that would not be linked to historical precedent. Of this mythical American project, and the stories that accompany it, Ziauddin Sardar and Merryl Wyn Davies (2002, 207–8) have written that the “most hateful of all acts of ‘knowledgable ignorance’ is the failure to examine history and to acknowledge that deeds done to others in the name of virtue have actually done great harm.” Working, teaching, and writing as an anthropologist in a department of American Indian Studies,

and thus entering into dialogue with those kinds of deeds every day, I have to agree. The world is complex, history is complex, motivations for action are complex. Nobody asks that any action taken cannot hurt anybody. But the painting of a new canvas, no matter how grand, virtuous, or well-meaning, is never isolated from history, nor disconnected from people in communities.

Frontiers

The Bakken boom, far from being something terribly new, is in fact simply a revisitation of the “frontier” to the northern plains, a region that has seen different waves of frontier booms based on natural resource extraction for centuries. Thinking about frontiers in terms of settlement or demographics is to use the wrong category. In a superficial reading of Fredrick Jackson Turner ([1920] 1996) or the Buffalo Commons prediction (Popper and Popper 1987), demographic change might appear to be the factor determining whether frontiers open or close. However, although population changes might be one of the consequences of booms and busts, it is not population density that defines a frontier. What makes a frontier is, most often, a resource boom. Turner ([1920] 1996, 147) actually did connect the frontier to the industrialization of a landscape: “The transcontinental railroad, the bonanza farm, the steam plow, harvester, and thresher, the ‘league-long furrow,’ and the vast cattle ranches, all suggested spacious combination and systematization of industry.” Frontiers do rearrange landscapes, as Fredric Jameson (1998) has pointed out, and it is not simply the physical landscape that is altered: legal, cultural, social, political, and spiritual landscapes are affected as well (Braun 2008, 210–14). Resource frontiers do not simply extract resources and then disappear without a trace. They extract resources and leave a fundamentally changed environment. On the northern plains, the resources have taken diverse forms: in no particular order, fur, gold, water, hides, land, uranium, buffalo bones, coal, and, for quite a while now, oil.

Oil was first sought and found in Montana in the early twentieth century. Between 1915 and 1920, several oil and gas wells became operational in east-central Montana between Lewistown, Billings, and Miles City (Rowe 1920). The discovery of the Cat Creek field in 1920 began a boom that lasted several years. Investors in one company saw a 9,500 percent return on investments over seven years. The boom, however, did not last. No new major fields were discovered, and the onset of the great depression in the late 1920s busted the developments. World War II meant a renewed interest in exploration, which was prolonged into the 1950s (Darrow 1956). In North Dakota, too, oil exploration started in the

1910s, expanded in the early 1920s, and was revived and focused after the war (Thom 1952). While a North Dakota well produced a single pint of oil in 1950, the first commercial well in the Williston Basin was drilled in Manitoba in 1951, followed that same year by wells in North Dakota and Montana (Fox and Matiniuk 1992; Laird 1962). The following boom lasted into the early 1960s, but then production decreased into the 1970s. New discoveries together with the OPEC crisis then led to a renewed oil boom into the early 1980s (Anderson et al. 1982), when it went bust. This was the last oil boom before the current Bakken boom, which started in earnest around 2009. It is this last boom, and the experiences that longtime residents made at that time, that informed at least the initial reactions to the contemporary Bakken boom.

As in most places, frontiers in North America have been waves of expansion and retraction of state control, of procedural landscapes (Braun 2013). States, however, let private companies or individuals interested in resources take the lead and limit their presence to licensing, permitting, and, if necessary, the enforcement of policies, laws, and territorial control. This is an old pattern of European colonial expansion, seen in the *repartimiento* and *encomienda* system of the Spanish conquest (e.g., Service 1951; Pastore 1997), and then its proto-capitalist English, Dutch, and French system of trading companies (MacLeod 1967), and its American descendants of free market governance. As one author points out, “The conquest and colonisation of America, therefore, was a joint venture between the Spanish state and private entrepreneurs” (Pastore 1997, 333). The same is true for most other European colonial efforts, as well as for the United States. On the northern plains, the first encounters with this developing global capitalist market system that brought wealth and power, unknown risks, and ultimately dependency, occurred during the early fur trade, when both British and French companies explored the region, established posts and trade relationships, and began a boom cycle. Native peoples in the region thus have experiences with proto-industrial and industrial extraction economies within a global context that stretch back at least three hundred years (Ray 1998). Different resources created booms and frontiers in different regions in North America. They all, however, demanded adaptations, commodified and stripped the resources, and created dependencies that could be exploited when the booms busted (e.g., Milloy 1988; Braund 1993; Gally 2002). Frontiers were primarily an economic enterprise. They did not establish total political control at once, nor were they one-sided, as “colonialism was seldom if ever imposed but instead built through interactions” (DuVal 2006, 47). Frontiers, however, returned, often in waves, dependent on the need for new resources (see Braun 2013). While this pattern is observable all around the

globe, the northern plains provide a great example of it, and the current Bakken oil boom is but one historical manifestation.

Most booms and frontiers do not originate from the discovery of new resources (unless the value of that resource is, at the time, very high), but from a change in economic value of a known resource. The fur trade was not driven by the existence of fur-bearing animals, but by the fashion demands in Europe. The buffalo hide boom was driven by the new value for hides once they could be industrially processed. The buffalo bones boom was driven by the demand for fertilizer. Energy booms are similarly driven by specific demands. Once the demand or the value falls (which is not always the same thing, as natural resources are extracted in a global context), that particular resource boom goes bust. If the value stays the same, however, the boom goes on for as long as the resource lasts. Particular frontiers thus move over landscapes, and the local boom economies are always dependent on global economic values outside their control. Nobody should understand that better than those who have to estimate property values. “The oil economy can be fickle,” as one banker in North Dakota put it (Ustinova and Louis 2013). In the Marcellus Shale gas boom, the more conservative banks are calculating mortgage risks based on the assumption that the boom disappears. Others only value 20 percent of royalty income in their appraisals (Scarborough 2012). Community reactions to the Bakken oil boom at least initially took a similar approach. Communities did not want to invest in new infrastructure if the boom would not last as happened in the 1980s, and as a result communities would become insolvent after the bust. After a while, however, the influx of people and wealth can no longer be ignored because it disrupts and paralyzes life as people knew it.

Studies of social impacts of natural resource extraction on local communities were developed in Canada, Australia, and Alaska, mostly in the 1970s, and mostly in the context of indigenous communities affected by mining, oil extraction, or pipeline construction. The most significant of these studies, and in many ways the model, was the Berger inquiry into the Mackenzie River valley pipeline in the Yukon Territory (Young 1995, 184–88). The report, titled “Northern Frontier, Northern Homeland,” demonstrates that frontiers are not wilderness areas becoming settled, but the territories of people making their homes there (Nuttall 2010, 62–70; see also Watkins 1977). In some situations, because of treaties, sovereign status, special legal status, or other considerations, it is important that in many cases, it is indigenous peoples that are affected by resource frontiers. However, implications are the same whether locals are indigenous or not. Frontiers exist as *frontiers* for outsiders, on the same land that is *home* to locals. The imposition of frontiers, then, already showcases that

they are an expression of power: the power to transform homes into a frontier. It is by reclassifying and transforming a landscape into a frontier (supposedly free for the taking) that the resources also are transformed from owned to exploitable. The Berger report resulted in a ten year moratorium to clarify land title and prepare for social impacts, but these kinds of setbacks to industry are extremely rare, and only come about through thoughtful governments intent on using power benignly.

Interests and Discourse

Mineral resource and oil or gas booms might be the most visible, and perhaps most infamous, resource booms today. However, they are obviously not the only natural resource booms; probably the most common are land booms. Whatever the desired resource is, these booms and associated frontiers show structural similarities, both in their local manifestations and in their general existence. Historically, one of the primary similarities was that booms and frontiers were temporary, at least in expectation. Once the resource—furs, gold, oil, land—was exhausted, the area no longer held any interest. This was even true for the seemingly most permanent resource: land. As long as the intent is simply to extract value from the land—that is, as long as land is seen as an alienable or alienated commodity, not a place or a home—there is no incentive to expend resources on further investments once the easy returns are gone. Historically, this can be seen with the example of agricultural frontiers in the United States.

The plains, David Danbom (2006, 146, 148) has concluded, were settled as a “postindustrial commercial frontier,” and have remained “largely colonial, exporting raw commodities and importing capital and manufactures.” Looking at this agricultural frontier as an industrial frontier indeed shows the similarities to other booms, such as the Bakken. Geoff Cunfer (2005, 219) describes the necessity of the constantly moving agricultural frontier in the United States based on soil depletion, “a farm system that mined soil nutrients.” Once a particular frontier had run its course, and land as a natural resource had been depleted, a new frontier was opened—“there were the farther free lands to which the ruined pioneer could turn” (Turner [1920] 1996, 148). When there were no more “free lands” suited for agriculture, however, the frontier was transformed. “Rather than adopt one or more of the ancient strategies, farmers (and the industrial nation behind them) created a new option. They appropriated abundant, cheap fossil-fuel energy to import enormous amounts of synthetically manufactured nitrogen onto their fields” (Cunfer 2005, 219). Ultimately, the land frontier and the fossil fuel frontiers are directly

linked. This history, however, leaves out several aspects of frontiers and booms, most importantly the legal implications and the global consequences of resource frontiers.

Governments of expanding states are always interested in advancing frontiers, as discussed in part because their frontiers appropriate the homes of others. However, they are not necessarily interested, at least not in the modern, capitalist state, in pouring resources into these frontiers. Just as they are for businesses, frontiers are extractive for governments, too. In the United States, this has historically resulted in government disposing of newly acquired territories to private individuals—"the distribution of the public domain," as one author called it (Klose 1964, 98–104). After all, the "free land," and other "free" resources were only "free" for the taking because the state directly or indirectly imposed and enforced the fact. The political dynamics at work can be seen on the plains in the subsidized, land-grant railroads, beginning with the Pacific Railroad Act of 1862.¹ On a global stage, the quest for fertilizer before the advent of synthetic nitrogen led to the opening of new frontiers with the Guano Islands Act of 1856, which enabled the appropriation of any "island, rock, or key" with guano deposits, for the sole purpose of allowing the commercial extraction of that resource. After the resource was depleted, the United States was in no way obligated to keep the territory (or any responsibilities for it) (Foster 2000, 150–151).²

Resource booms do not exist, and never have come into existence, as a function of an essential need for more resources. Such an interpretation leaves out the political, social, cultural, legal, and environmental contexts of booms. It could be argued that the growth-imperative of modern capitalist economies has to lead to constant expansion into territories of cheap resources and labor. However, just like the expansion of the Inca and Aztec empires was not a function of religion, and religion did not have the purpose to serve as a legitimization of expansion (Conrad and Demarest 1984, 191–209), so, too, can we not interpret economics from a functionalist perspective only. The establishment of resource frontiers is a social, cultural, and political choice. It is embedded in other discourses, and partially dependent on them, but it is a voluntary activity. The nature of resource frontiers, too, is dependent on cultural choices. Mississippian buffer zones, for example, were used for resource extraction, but they

¹ I have argued elsewhere that 1862 marked the beginning of the true colonization of the plains. In conjunction with the Pacific Railroad Act, the Morrill Act and the Homesteading Act prepared this. See Braun (2009).

² See also 2011 U.S. Code, Title 48—Territories and Insular Possessions, Chapter 8—Guano Islands (§§1411–19).

looked very different from other frontiers. Their depletion probably led to societal collapse (Anderson 1990, 205–6). This might be true for all resource frontiers, but a global economy can exploit more alternative niches and therefore can hide the collapse longer. While the goal for a buffer zone was to be sustainable, the goal for extractive resource frontiers, especially booms, is not to be sustainable, but to provide as much economic profit as possible. We have to be careful not to infuse local peoples with ecological wisdom (Krech 1999), but the decision to leave intact resources that could be extracted is possible, an available choice.³

What resources are extracted, how, and how a frontier should look, then, are choices that are up for debate. However, because resource extraction in boom frontiers is in the interest of the state or of corporations, and because the legality and legitimacy of frontiers are often tenuous at best, an open debate might not be in the best interest of powerful stakeholders. Instead, most frontiers are enshrined in a hegemonic discourse. As mentioned, in the Bakken, and in other oil and gas booms in the early twenty-first century, this discourse is dominated by the idea that these booms save the state and the people. The urgency to extract resources as fast as possible in order to jumpstart the national and regional economy, to provide energy security, and to provide jobs thus merges with the old ideas of the frontier as the bringer or guarantor of American wellbeing and identity. These booms are also positioned in a context in which the “focus of government policy [has] shifted to making the world a more hospitable place for American business.” This is nothing new, as in reality, “the heads of US-based corporations” were always the frontiersmen (Byers 2005). The myth of the American frontier is anchored in the lone, individual hero (Sardar and Davies 2002), but in reality, frontiers were controlled (and financed) by private and state capital, from railroad barons to ranch empires, from government agencies to multinational corporations. Local people often experience booms and frontiers as chaotic and uncontrollable, but this might more be a consequence of not being privy to the planning decisions.

The discourse in the Bakken has been stressing that corporations might move somewhere else if the state is not lenient in regulating them. State regulators and legislators have been especially wary of environmental regulations that might slow the rate of development, warning of EPA regulations on hydraulic fracturing (Donovan 2011), just as they have warned against EPA regulations on coal power plant emissions (Nowatzki 2014). This discourse is nationally organized, for example

³ For example, in the Ecuadorian Amazon; for a general argument on this see Grober (2012).

through groups like the American Legislative Exchange Council (Goldenberg 2014; Yeatman 2013). “Decades worth of oil, natural gas, coal and uranium are once again within reach—along with many thousands of jobs and trillions of dollars in government revenues,” wrote one author; yet, “almost as quickly as technologies and discoveries are announced, national environmentalist groups, local activists, bureaucrats, courts and politicians proclaim their opposition, based on potential to speculative risks to air quality, groundwater, endangered species or Earth’s climate, or on resistance to energy projects and facilities in their back yards” (Driessen 2010, 3). The discourse is so pervasive that in my own research on boom impacts, I have learned of and met faculty at regional institutions and employees at federal agencies reluctant to engage in any research or data sharing activities that might be seen as directed against the interests of industry. This includes basic research on air and water quality, or the sharing of public satellite images. One of the best examples of this discourse came in the summer 2012, when I attended the *Energy Impact Solutions Conference* at Minot State University. John Hurlimann, the presenter on “Statewide Community Resilience for North Dakota” and working for Dickinson State University, was talking about the dangers of terrorism for the Bakken boom, in a passage that merits quoting in full:

I know, people look at me like I’m crazy when I talk about terrorists, and we are becoming more of a terrorist target in this country, right now, uh, for a couple reasons. We have two groups that don’t want to see a lot of things going on here. One are the environmentalists, and, trust me, you read the blogs, and I mean they would just as soon close down the coal and everything else we have. The EPA is a good example of that, uhm ... and, sorry, Senator Conrad’s office, but, uhm ... they passed a rule last year that said any power plant that uses coal will be fined unless it changes to a new biodegradable fuel. The problem was, this fuel has not been invented yet. But their argument was that they’re gonna fine people anyway because that was an encouragement for them to invent the fuel. So, I mean, that’s what we’re dealing with sometimes with these people.⁴

Maybe because this was North Dakota, nobody raised an eyebrow at this equation of a federal agency with terrorism because the agency is trying to

⁴ The quote in full is transcribed from the DVD of the conference presentations *Energy Impact Solutions Conference*, Tuesday, August 14, 2012. In possession of author.

regulate the energy industry. The example showcases how hegemonic the discourse of the resource extraction frontier as an economic enterprise in the interest of the state has become. To put this into historical context, the land boom that populated the plains in the late nineteenth century was in part fueled by a discourse of rain-making through “pluviculture” and other schemes, a discourse that “was understandably popular in a land where dreams were much more pleasant than realities” (Danbom 2006, 145).

Realities

In reality, booms are never only pleasant, not the current oil boom, nor the fur trade, nor uranium mining, nor gold rushes, nor the land boom in the nineteenth century. Less than 20 percent of homesteaders on the plains stayed on the plots they settled first. They found that the environments did not adhere to the dreams of pluviculture. However, “such a constrained environment is not likely to be accompanied by limited expectations by people from modern industrial cultures” (Bennett 1996, 261). People who believe in the hegemony of technological and industrial solutions did not and do not expect to have their dreams shattered by local realities. In essence, that is why booms occur: there is a disconnect between the lived realities of local people and the dreams of strangers, who flock to boom regions. Because booms are temporary phenomena, and because capital can be controlled globally, frontier realities of local people also often do not match those of outsiders.

In addition, booms create status divisions. Oil and gas booms, for example, create divisions between those who own mineral rights and earn royalties and those who do not, yet have to live with all the disturbances that are necessary to create their neighbors’ new wealth (Hudson and Braun 2013). Simona Perry (2012) describes the impacts by hegemonic discourse, wealth differentiation, and the influx of strangers on communities in the Marcellus Shale as “collective trauma.” Her description of local realities under boom conditions are very similar to community impacts in other resource frontier situations. Accounts of the Marcellus fracking boom show how the initial local enthusiasm—fueled by dreams of poverty relief, national recognition, and patriotism—disappeared when it became clear to some in these communities that this development had divided communities and sometimes families, had the potential to create great environmental harm, and would ultimately mostly benefit outsiders (McGraw 2011; Wilber 2012). While in the abstract, booms have a positive economic impact on an international, national, regional, and local

level, the impact on local people cannot be captured by general statistics or numbers alone.

Only in very abstract terms can economic growth be used to define development because it is mostly meaningless for people in communities. As has become increasingly evident, economic recovery has been disconnected from employment opportunities, for example. In other words, “the ‘trickle-down effect’ rarely takes place; growth does not necessarily lead to enhanced standards of living. As societies in the affluent North demonstrate, the increased use of highly sophisticated technology or a fast-growing GNP does not necessarily eradicate poverty, illiteracy or homelessness, although it may well alter the ways these ills are experienced” (Gardner and Lewis 1996, 7). In the case of resource booms like the Bakken, it is easily arguable that homelessness increases and education is disincentivized. Like other booms, the Bakken has in part led to the deterritorialization of locals, who either cannot afford to pay hugely inflationary rents or have their subsistence activities disrupted by mineral rights owners. The lure of quick money is, at least from anecdotal evidence, also leading large numbers of young people to forgo higher education.

The majority of local residents in the Bakken, in my experience, still look at the extraction of natural resources as a positive development. Many have come to see the boom in a different light, though, and question whether extraction has to be hurried, or whether it can be carefully thought through, well-regulated, and supervised. The issue for them is not whether or not extraction should take place. “The key issue is,” as Young (1995, 183) pointed out for mining in Australia, “aboriginal [or local] control over deciding where [extraction] can take place and how its benefits will flow through to the community.” The loss of local control, “the most serious consequence of ‘development’” (Bennett 1996, 347), along with alienation from the earth and from one another have long been recognized as two conditions of capitalism (Foster 2000). They flow as necessities out of the prioritization of economic capital and growth, the simplification of context for the sake of efficiency (Dussel 1998, 13). In frontier situations, this can mean the exclusion of local concerns, as the preexisting local is denied under the assumptions of wilderness; in boom situations, the local is denied under the assumption of overarching economic or political interests.

While some authors may argue for at least the potential of a “sustainable boom” (Parlow 2011), I see that idea as an oxymoron. But even if booms were “sustainable” (what exactly would that mean⁵—and is it

⁵ See Grober (2012, 17–21) and Boff (1997, 128–29).

not in the definition of “boom” that it will go bust?), they contribute to new inequalities. I have argued that “the proper goal for a contextualized economy is not only materially healthy communities but also spiritually, ecologically, and physically healthy communities” (Braun 2008, 177). In 1869, the naturalist Alfred Russel Wallace wrote that we “should now clearly recognize the fact, that the wealth and knowledge and culture of the few do not constitute civilization, and do not of themselves advance us towards the ‘perfect social state’” (Wallace 2000, 457). Poverty, power, and sovereignty are evident factors in the hydraulic fracturing booms of the early twenty-first century. Poor communities need income and jobs, and they do not have the luxury of asking whether they agree with how these are generated, or whether the mode of production will destroy their communities in a few generations’ time (Braun 2008). In other words, they do not have, or feel they do not have, the privilege of sovereignty, a good that has increasingly become a luxury of “the few.” This can, for example, be seen by an analysis of decision making processes during another energy boom opportunity in North Dakota, the coal-gasification boom of the early 1970s in Mercer County (Tauxe 1993, 138–44). Energy development can be beneficial to local communities. In order for that to happen, however, they need to regain control, which sets up a built in conflict over sovereignty between local and outside interests.

The way these conflicts have been fought may perhaps best be seen by the experience of Native communities, who have been embroiled in struggles over sovereignty for a long time (Ambler 1990). Energy and other resource booms have affected indigenous communities for centuries, and several, especially Fort Peck and Fort Berthold, have been in the center of different oil booms on the northern plains. It is an expression of the ways in which power inequalities are mustered in the interests of the state and industry when local people express feelings of being treated “like Indians” when they feel disappropriated by governments (Tauxe 1993, 145; Wagoner 2002). Patricia Limerick has pointed to western ranchers’ self-perception as victims in the wake of the sagebrush rebellion, and Lamm and McCarthy also identified themselves with “the New Indians,” refusing to “be herded to the new reservations” (Limerick 1987, 47, 157). In the spring of 2014, militia members from all over the United States participated in a successful armed standoff against the Bureau of Land Management in Nevada, which was trying to enforce grazing fees on public lands against a rancher. These events underscore how much frustration government power still creates (e.g., Eowynbh 2014). They also recall, however, the long fight by Western Shoshones Mary and Carrie Dann against the BLM and other agencies who do not accept the Treaty of Ruby Valley (Luebben 2002), and faintly echo other ongoing

fighters against treaty violations. Perhaps more interesting than the effort to paint oneself as a victim (and write the “old Indians off the page”? [Braun 2007, 199]) is that Lamm and McCarthy (1982, 5) start their book with a “nightmare” scenario of energy politics, a hypothetical blockade of Middle Eastern oil:

The federal government takes immediate action, mandating massive energy exploration and recovery in the American West. State and local laws are overridden as energy profits proliferate across the land. The western states are not consulted. They are ignored. Their rights are abrogated, their sovereignty destroyed. Energy combines, unleashed by the government, invade the West ... Boomtowns mushroom across the West’s rural face, disfiguring the land. Cedar breaks crumble to strip miners, waters fill with toxic waste, mountain valleys fall to tractor roads, and evening sunsets blaze through polluted air. Ways of life change forever ... New cities, plagued by crime and violence and nonexistent social and economic services, cannot deal with the change.

Apart from the cedars and the mountains, the scenario seems almost prophetic when compared to the local perception of the Bakken boom, and many other energy booms in the early twenty-first century—except that the government has given the driver’s seat to industry, in part under the pressure of political leaders who want to see “energy profits proliferate across the land.”

In the last decade of the twentieth century, some authors thought that the western United States had been deindustrialized, that “the federal government succeeded in transforming the colonial economy of the West into a pacesetter technologically advanced economy” (Nash 1999, 145). Others, however, warned that there had been no real structural change. “The form of capital remaking the hinterland may be different, the ensuing pace of change may be more immediate, and the remapping of regional landscapes may be on a much greater scale, but in terms of external influences on local conditions, little has changed. Events in the West today differ only in scope and magnitude from the events of 1893, when decisions made in transatlantic boardrooms brought immediate chaos and suffering to the tiniest of industrial communities in the western outback” (Robbins 1994, 194). Lamm and McCarthy (1982, 5–6), too, saw western history as a continuity of dependence: “In time, the energy rush dies. The boomers disappear. Left behind is a wasteland, its skeletal boomtowns and cratered-out landscape a graphic reminder of days past.

Western people, pawns in an ugly and endless war, regroup and rebuild. And their cyclical history begins again.”

The Real Resource: Water

A cyclical nature is not only a marker of settler history on the plains, and of boom-bust economies, but also of the plains ecosystem, especially in regards to drought cycles (Clark et al. 2002). Yet, in early 2012, the predominant water-related metaphor for the Bakken boom did not mention drought. Instead, people were framing the boom as a potential tsunami. This might have been a response to the 2011 tsunami that had devastated the Japanese coast, yet it made perfect sense. The image of an unstoppable wave crashing into and over peaceful communities and leaving nothing but destruction in its wake captured the fears of locals, both Indian and non-Indian. On the Fort Berthold reservation, however, I heard another metaphor, too. Several people used the historic flooding of the Missouri River as an image to describe their fear for their communities. Lake Sakakawea had destroyed communities, livelihoods, and the nation's economy fifty years earlier, leading to lasting dependency (Parker 2011). Those events thus capture, on one hand, the fears of destruction at the hand of outside forces. For others, they are the reason why the tribe needs to invest in and profit from the boom: it presents the chance to finally rebuild something akin to what was lost.

Beyond these metaphors, however, lies a greater truth. All the booms and frontiers on the plains have one thing in common: water is the key resource. Whether it is furs, electricity, gold, uranium, land, or oil that is extracted, the ultimate resource for all activities has always been water. Water is also at the heart of the Bakken boom, and of fracking booms in general. This has two reasons: hydraulic fracturing uses a lot of water, and it produces a lot of wastewater. In 1890, John Wesley Powell pointed out the centrality of water as a resource for the arid lands of the west. He went a step farther, however, and problematized another aspect of water as a critical resource, namely commodification and regulation: “The land itself is valueless without the water. If a company owns that water, unless protected by local, national, or State law in some manner the farmer becomes the servant of the company” (Powell 1890, 252). Even in semi-arid lands, like the plains, interdependent natural resources “are often set in a hair-trigger equilibrium which is quickly upset by uncontrolled use” (Leopold 1991, 112–13). Aquifers across the United States and globally have been depleted by agriculture and industrial usage and population increases (Konikow 2013; Wada et al. 2010).

According to a brief survey of data from FracFocus.org, a typical fracking well in the Bakken needs about two million gallons of water to complete. In southern Mountrail County, the range of water used lies between 700,000 and 30,000,000 gallons of water; at the beginning of June 2014, there were 1,055 wells listed for the county.⁶ In October 2013, 809 had been listed. This means that the fracking industry used at least 400 million gallons of water in one county during these nine months. Initial water usage for fracking a well is extended by maintenance usage, which amounts to about 600 gallons a day per well (Kiger 2013). In 2012, the estimated water usage by the oil industry in the state came to 5.5 billion gallons (Dalrymple 2013). In 2010, estimates for total usage needs in 2025 ranged from 4.5 billion gallons to 9.1 billion gallons per year and came to the conclusion that “the only plentiful and dependable supply of water for the oil industry in western North Dakota, at projected rates of extraction, is the Missouri River system” (Schuh 2010, 43–47). Perhaps in part because of the Missouri, water use for fracking is not perceived to create a hugely competitive situation in North Dakota, in contrast to drought-hit regions with fracking booms, such as Texas (Freyman and Salmon 2013). North Dakota also has a more effective regulatory system in place. Anyone with a legal interest in land can apply for a water use permit; these permits are then examined by the State Water Commission. The oil industry has given rise to many water permits being used for “water depots,” where the industry buys the water needed for its operations (Schuh 2010; Western Organization of Resource Councils 2013). The system exemplifies the frontier as a place where public resources are commodified for the profit of individuals and corporations. However, permits limit the quantity of water to be extracted.

Because the future of the oil boom in North Dakota hinges on the availability of water from Lake Sakakawea, the state, which is supporting the industry, and the federal government, which is trying to regulate the water usage in the Missouri River watershed overall, have come into conflict. The Corps of Engineers has been playing with the idea of asking for a “storage fee” for water from the lake, a notion that the state is rejecting out of hand, as it claims the water for itself. If the water belongs to the state, water permits could be given for a nominal fee, and the industry would have cheap access to the critical resource it depends on. In 2012, the Corps signed a first water agreement, for 1.6 billion gallons. In 2010, it had applications for easements for about 11 billion gallons, although the amount requested might not be the amount of water that is either needed or would be removed (US Army Corps of Engineers 2010;

⁶ Data retrieved from FracFocus.org on June 2, 2014.

Springer 2013). The fact that this conflict mirrors frontier water disputes of the nineteenth century, and that water is the actual key resource in the Bakken is also illuminated by the response from the Mandan, Hidatsa and Arikara Nation on Fort Berthold. In 2012, the Three Affiliated Tribes passed a resolution against water agreements by the Corps, noting that the “Corps’ proposal to sell or allow the taking of water from Lake Sakakawea for use in the oil and gas industry will undermine the Tribes’ current plans to market and sell water to the oil and gas industry and thereby raise needed revenue” (Tribal Business Council of the Three Affiliated Tribes 2012). New communal water delivery systems in northwest North Dakota are also counting on industrial sales of water to finance the infrastructure. Even if there is enough water, competition between water providers to raise revenues for communities is becoming a new economic and sociopolitical reality.

Water usage is only one part of the role water plays in hydraulic fracturing frontiers; however, the other part is the generation and disposal of wastewater. Water is mixed with chemicals before it is injected into wells to frack them. That water, as well as additional water, comes back up the well, and in contrast to water that is used for agriculture or ethanol or coal plants, this water cannot be allowed to reenter the water cycle. The only way to legally dispose of it in the Bakken and in most other oil and gas shale plays, is to inject it deep into the ground. The illegal way to dispose of it is to simply let it drip out of tank trucks while driving along the road. However, in North Dakota, as in other states, the Department of Health “considers oilfield-produced saltwater (brine) to be an effective substitute for commercial dust and ice control products.” As such, brine can be spread on dirt roads in winter and summer. The NDDoH notes that “wastes are exempt from waste management rules and are not considered a waste when it is: ‘(2) Used or reused as effective substitutes for commercial products’” (North Dakota Department of Health n.d.). Brine as a waste product is injected in one of over 30,000 Class II disposal wells in the United States. In early 2013, North Dakota was injecting over 19 million gallons of produced water brine into the “Dakota Formation” per day, or over 7 billion gallons a year (Davisson and Luther 2013).⁷

Deep injection wells are designed to be safeguarding drinking water and aquifers, but the regulations are often based on unproven assumptions (Lustgarten 2012). A study hypothesizing that fracking itself can change the properties of the shale in which it occurs, which could then lead to the permeability of assumed stable geological formations, enabling waste

⁷ For a discussion of the inconsistencies in nomenclature of formations, see Thamke and Craig (1997, 12–13).

to travel into other layers, including aquifers, was heavily criticized, in part by a consulting firm (Myers 2012; Saiers and Barth 2012; Cohen and Andrews 2013). However, other studies have postulated that some of the assumed impermeable geological layers might have natural fractures, and that brine has contaminated groundwater (Warner et al. 2012). It seems that deep injection is relatively safe for now, as long as the injection wells are constructed and maintained well. The volume of waste injected, the lack of known data, potential seismic activity caused by injection, and communication between fracked wells, all raise the potential for contamination of ground water over the long term. Recent research by a consulting company rejecting the permeability of layers comes to the conclusion that “where upward flow occurs, both permeability and flow rates are low, and therefore, timescales for transport are long” (Flewelling and Sharma 2013; Flewelling et al. 2013). Thus, if problems occur, they might become noticeable after the industry has left the region.

Most contamination issues exist from improper handling, storage, and well construction. The potential for contamination of drinking water in shallow aquifers on the northern plains is demonstrated on Fort Peck, where brine has contaminated drinking water and the Poplar River since the 1970s. To reduce the threat to groundwater serving three thousand people in the Poplar area, remediation systems were established (Thamke and Craig 1997; Thamke and Smith 2014). Potential water contamination and other health risks, such as air pollution (McKenzie et al. 2012), have led to calls for the inclusion of a comprehensive public health approach to discussions on hydraulic fracturing development (Mackie et al. 2013). It is, of course, the presence of such planning discussions that mark the absence of a frontier, or a boom. Comprehensive planning and regulations mark not necessarily an economic bust, but the fact that the state is changing its interests from securing resources for individuals and corporations to a public safety enforcement.

Conclusions

Industrial booms are nothing new to the global or national landscapes, nor are they new to the northern plains. Recurrent waves of frontiers, each one extracting resources a little more difficult to get at, have swept the region. As all frontiers, each visitation has disrupted those tied to place, and shifted economic and political power to those not related to the region and those who disentangle themselves from such ties. “Today’s disintegration of rural life,” wrote Osha Gray Davidson (1990, 159), “the breakup of families, small-town organizations, and whole communities—fits the pattern established by colonial powers throughout the Third World.” There

is a connection between inequality, dependence, poverty, and frontier resource extraction: the first three create a society where “civic culture” is more likely absent (Duncan 1999), and that enables the establishment of a frontier economy. Frontiers are economic and political patterns that take advantage of and create more inequality. They persist until one of two things happens: either the resources are depleted and capital leaves, or some beneficiaries successfully (re-)build a civic culture. In the first case, local communities are left with depleted resources and nothing to show for it. In the second case, the frontier transforms into a stable, regulated economic and political environment. This transformation, however, also needs to accomplish a successful economic diversification, or the stability will be a delusion. Brian Black (2000, 187) describes the dreams for such a transformation for the region around Petrolia, where “delusions of permanence had been based on a finite resource; it was a lesson about the nature of the oil industry.” That lesson has been learned by planners in North Dakota as they attempt to attract families, to build infrastructure and subdivisions, and to advertise the Williston Basin as a sustainable boom. The underlying dependence on a finite resource, however, raises the specter of yet another bust.

Facing the spectacular end of the land boom on the plains in the years after the Dust Bowl, the Great Plains Committee came to the conclusion that hubris and ignorance about geographic, climatic, and environmental conditions had been mainly to blame. Although “an inherent characteristic of pioneering settlement,” the assumption that “Nature is something to take advantage of and to exploit” was obviously a mistake. Since natural resources are actually not inexhaustible, the report advocated for conservation instead of temporary economic profiteering. It also, however, pointed out that “under pioneering conditions ... if anyone acquired some portion of the free natural resources and turned it into productive use, he was ... rendering a service to the entire society”; yet, in hindsight, “only too frequently what appears to be of immediate good to the individual in the long run is not good for the people of the region, and even for the individual” (Great Plains Committee 1947, 63–64). Local control cannot mean handing that control to economic interests that are often not tied to local communities. Local sovereignty over resources needs longterm wisdom and regulations, and outside control needs insight and deference to local needs and wants. Neither is given in frontier situations. In 1924, Aldo Leopold advocated that “uncontrolled use of one local resource may menace the economic system of whole regions. Therefore, to protect the public interest, certain resources must remain in public ownership, and ultimately the use of all resources will have to be put under public regulation, regardless of ownership” (Leopold 1991, 113).

This advice, namely to keep decisions about natural resources outside the influence of economic interests, would end frontiers and regulate booms.

The crux is, of course, as it has been ever since the American settlement of the West, what “public interest” means. For Leopold and others, it was the defense of the community and the environment upon which the community rests against corporate interests and those wanting to exploit “free” resources. This is still the interpretation of communities, for example, that have passed no fracking ordinances in order to safeguard their water. It is hard to reconcile such a notion with contemporary practices of states, however. Providing free resources to individuals and corporations so they can profit from them hardly protects the public interest, unless, of course, the public interest is identical with corporate interests. This is, of course, what lobbying groups such as the American Legislative Exchange Council postulate.

The public interest in natural resource has been interpreted in the interests of the state since the 1930s at least. In the case of water, the Tennessee Valley Authority and the Pick-Sloan dams on the upper Missouri are testimony to that. Energy extraction—with or without fracking—as a national interest follows the same trajectory. However, there is a difference between a resource being appropriated by the state and a state giving free reign over a resource to corporations. The latter, which creates the frontier extraction model, may fall into the current trend for states to clear the way for business interests. I have to admit, however, that this leaves me deeply suspicious. Imagine watching a movie in which the sheriff tells John Wayne or Gregory Peck that they cannot help poor ranchers fight for their right to water because the rich water barons need to make more money off them.

Boosterism has always accompanied frontiers, just as it does in the Bakken today. Yet boosterism works only by abstracting specific positive elements of booms from their contexts, and then claiming they stand for the whole. “Pluviculture” never worked in context; the rain does not follow the plow, even if at times, it might rain after somebody plows. Neither is it true that “the lesson of history is that in free societies individuals produce more energy than they consume” (Bradly and Fulmer 2004). The first law of thermodynamics has something to say about that. Neither is it true that “‘non-renewable’ energy sources have become more abundant” (Desrochers 2005)—we have just happened to find more, like in the Bakken. But ultimately, no amount of boosterism can realistically deny that the Bakken needs to be analyzed in the appropriate, historical and contemporary, global context of energy, environment, and politics.

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**THE BAKKEN GOES
BOOM
OIL AND THE CHANGING
GEOGRAPHIES OF WESTERN
NORTH DAKOTA**

Edited by William Caraher and Kyle Conway

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