

book review

Wylie, Sarah Ann. *Fractivism: Corporate Bodies and Chemical Bonds*. Duke University Press, 2018.

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On November 6, 2018, Colorado voters rejected a ballot initiative that would have banned Hydraulic Fracturing, or fracking, within 2,500 feet of homes, schools, and water sources. In a stunning victory for the oil and gas industry, voters decided that the 500-foot limit currently in place was more than enough (Irfan 2018). This development comes in spite of the work by educators, protestors, artists, and scientists who have spent the past couple of years studying and publicizing fracking's dangers. Sarah Anne Wylie, author of *Fractivism*, sits at the intersection of these fields. A STS (Science and Technology Studies) scholar by trade, Wylie studied under the revolutionary Theo Colborn. Afterwards, she worked with local activists in Colorado and Pennsylvania, and collaborated with the artist Chris Csikszentmihaly on the websites Well Watch and Landman Tracker, all in a bid to “empower isolated local communities” through digital tools (Wylie 2018, x). The result of these experiences is *Fractivism*, a book that is part documentation and reflection on her efforts, and part suggestions for a path forward.

The early chapters of the book offer a convincing argument on the importance of endocrine disruption research and Theo Colborn's novel scientific methods. In 1987, Colborn was hired to evaluate the health of the Great Lakes. At first, she followed the scientific template common at the time: “toxic chemicals=cancer” (Wylie 2018,

48). Nothing appeared wrong. So, Colborn took a path uncommon in science at the time: she began to look at the outliers in her data, trying to find if something linked them. Eventually, she found that the same chemicals appeared across many troubled species: “DDT, dieldrin, chlordane, lindane, and PCBs” (Wylie 2018, 48). In doing so, Colborn took the first steps toward a new form of science, one that operates in a way less conducive to corporate interests. Wylie calls this practice HEIRship (Health Environmental Impact Science).

It is a credit to the book that every chapter has its share of galling information about corporate malfeasance. In the first chapter, Wylie lays out how fracking became exempted from the EPA's Safe Drinking Water Act so that Halliburton and Schlumberger would not have to disclose what they use on the gas patch.¹ Wylie charts the movement of industry executives into regulatory bodies and vice versa, as well as academia's ties to the industry. She singles out MIT, for a time her home institution, and its energy initiative (MITEI) for how closely the institution works with its industry funders. The chapter inspires the type of angry fear that makes you aware of your body, the fear that you feel in your forearms precisely because they are useless. One is angry, terribly angry, but what good is physical anger in the face of late capital? And so one becomes fearful instead.

This first chapter also reveals an issue that

Wylie confronts in the later chapters, even as it at times undermines her projects. Wylie believes that the response to fracking is to gather as much information as possible, which eventually will be impossible for the gas industry to withstand. Or, in her own words, she is interested in exploring “how social sciences and the academy at large can invest... to help redress the informational and technical imbalances faced by communities dealing with large-scale multinational industries” (Wylie 2018, x). It is interesting to note that several times in the book, she likens the fossil fuel industry’s scientific deceptions to what the cigarette lobby did (and does), paying scientists to downplay the dangers of cigarettes. However, though almost everyone knows cigarettes are bad, Americans bought 249 billion cigarettes in 2017.² To quote Wendy Chun, “publicity, understood as open publication, is not democracy” (Chun 2005, 71). Indeed, the first chapter belies Wylie’s belief that information will solve the problem; those in power decide which information is considered valid, even in the public sphere. And when they lose control of that, they choose to just ignore said information. Facts alone do not bring about change. Wylie says the EPA’s decision on exempting fracking from the Clean Drinking Water Act One was “later criticized as cronyism” (Wylie 2018, 27). One could also call it neoliberalism in action, perhaps even a pure expression of neoliberal ideology—the subjugation of fact to the government’s duty to open ever more spaces to the market. In such a scenario, what might scientists, sociologists, and other academics do? Anger is insufficient, as is knowledge production itself. Calls to sabotage fracking machines would be dismissed as extremist and elitist. What is left?

Rather than fall into nihilism, Wylie offers several solutions. To start, she suggests scientists might follow Colborn’s model and practice HEIRship. Wylie sees HEIRship as a technique “suited to studying both the emerging health effects of endocrine disrupting chemicals (EDCs) as well as the public relations (PR), scientific, and regulatory strategies of the corporations that produce such EDCs” (Wylie 2018, 64). Her prime example of what HEIRship might look like is TEDX, a non-profit organization founded by Colborn that houses “Monster,” the organizations database of EDC research. Yet, despite the organization and Wylie’s goal of correcting knowledge imbalances, the Monster database is tightly controlled. The

Monster database does not exist online, and as Wylie says, “Lynn always logged me in if I needed to perform Monster searches and I was never allowed to bring in my own computer or to work in the office alone or after hours” (Wylie 2018, 70). The solution she proposes for how a database run by a few people and unavailable to the many is supposed to fix knowledge imbalances and challenge corporate PR is through websites such as the Critical Windows Development project, which shows research on various endocrine disruptors and their effects. Wylie reproduces images from the site in the book. Speaking as a layperson, they were borderline undecipherable. A quick visit to “hydraulicfracturing.com” reveals easy to read graphs and maps which demonstrate the lobby’s overwhelming financial might. This is not to belittle TEDX and HEIRship, but rather to reveal that websites alone are not enough to correct the knowledge imbalances Wylie is nobly dedicated to eradicating, if only due to the vast gap in resources. The result of TEDX’s most effective campaign at the time of the book’s release was a national bill that died in committee—it never even reached the congressional floor.

HEIRship is not the only mode of bringing about change that Wylie suggests. She also calls for what she calls “STS in practice.” STS in practice is exactly what it sounds like—a form of activism that stems from Science and Technology Studies, working to get information and critiques to a larger swath of the population beyond just academics. It includes projects such as the development of websites that track landmen and their practices or map wells and the health effects around them.³ These projects are the focus of Wylie’s book and activism. Chapters 7 and 8 are dedicated to The Landman Report Card, a site designed by Wylie and her associates so individuals could review landmen they dealt with and prospective leasers could investigate who they were negotiating with. Though at times she suggests the site could be a way for communities to band together to stop fracking, its real purpose is to prevent the exploitation of individuals by landmen, with building solidarity as a secondary bonus. But if the leasers were given what they deserve, it would not be economical for the corporation to lease. As Wylie herself notes, landmen would go to poor neighborhoods, such as Jimmy Johnston’s, and pressure individuals to sign bad contracts. Johnston told of “neighbors, drug

addicts and old ladies, what been pressured into signing leases way below market price. Renters were pressured into signing documents just so there was an authorizing name” (Wylie 2018, 167). While the site opened the possibility that those with time and energy might negotiate a better deal, this is not a case of a rising tide lifting all boats. For any number of reasons, individuals might not be able to put in the time and effort to do the research the site allowed, yet Wylie makes little mention of this.

Furthermore, Wylie and her collaborators had a goal of making the site as neutral-seeming as possible. Wylie does not want to slander landmen or create a place where people just vent about them. She even believes landmen can be good, and opens up the possibility for praise of them on the site. But though a landman might be a good person in their personal life, to be good at their job is to sacrifice the world to humanity’s addiction. At first, her goal of an impartial site seems odd, considering her dedication to opposing the industry. However, the reason is simple: Wylie and her co-workers did not want to get sued for libel. In an early mock up, they included a quote that lawyers feared might be taken as editorializing. The result was they “replaced it with a legal disclaimer in our next version of the site” which was also eventually removed (Wylie 2018, 184). They redesigned the sight to “protect [themselves] as the ISP,” encouraging users to add “positive and negative feedback” and removing warnings to users about defamation risks (Wylie 2018, 185). Warning users about their actions would make Wylie and her group liable, and so instead they moved any such warnings into the terms of service (which Wylie admits are rarely read or understood) and a hyperlink in the website’s FAQ. In doing so, they pushed the legal threat onto those willing to speak out against landmen. A place built for individuals to speak openly and honestly is impossible when the legal system can be a tool for corporations and their embodiments to stifle speech. Gawker is dead, Peter Thiel is rich and happy, and surely Halliburton and Schlumberger have taken note.

Another website Wylie helped build, WelWatch, was meant to be an open-source website that tracked well locations and was open to editing by almost all—after a basic verification process. Her goal for the site was that those who live near gas patches would tell their stories, providing researchers a database to which they could also add.

As she describes, the development of the site had its fair share of difficulties. They ended up using a wiki system, though the mock-ups presented in the book look less like Wikipedia and more like an esoteric Netscape site. Though it eventually crashed and all data was lost, the site did collect information and produce knowledge during its existence. Through it, researchers found new areas of study, and individuals began to recognize that their cases were not unique—that fracking truly was the cause of their ailments. Wylie celebrates these moments as successes, as indeed they are. Yet, as she notes, it was the capitalist structures of research, the industry, the academy, and the Internet that caused its downfall, and as we know now, the information the site shared to non-academics for the short time it was up was not enough to overcome industry lobbying. Wylie rightly calls for institutional change in the academy and non-profit worlds, but takes it as a given that both industries want to revolutionize themselves to better oppose the oil and gas industry. This is, unfortunately, not a given.

In the conclusion, Wylie offers a list of “techniques for industrial embodiment,” which includes her suggestions for a more radical academia (Wylie 2018, 295). These techniques include “building on relationships of becoming,” “collective communication of situated knowledge,” and “witnessing and developing experimental science” (Wylie 2018, 296-300). Yet she neglects to explain why academia, particularly the more conservative STEM disciplines, would enact this change. She notes in the early chapters that her home institution for a time, MIT, is the beneficiary of corporate donations, including by the oil and gas industry. Yet she does not suggest what might motivate MIT to disband MITEI, which produces pro-industry white papers and solicits large donations from companies like Schlumberger, which even has its own executive training program within MIT’s business school (Wylie 2018, 32).

As forests burn and famine grows, the need for Wylie’s radical science and activism is ever more necessary. However, better science and open-source websites alone are not a way out of the mess we have made. They are improvements within the system that is leaving us to rot, policies posited as end goals. At most, they are a step in the right direction at a time when we need leaps. That we are so far behind is not Wylie’s fault, of course. But digital media won’t save us, just like television

and film and radio and the printing press and every other technology that promised the world as long as we accepted everything off the screen was unimportant and invisible. Wylie's activism assumes a benevolence within the academy, governmental, and non-profit sectors that her own work and activism falsifies. It also relies on a mass engagement we unfortunately have yet to see. The back of the book promises an outline for "the way forward... for the planet as a whole." The failure of even minor change in Colorado, the central location of her work, suggests this optimism be approached with skepticism.

References

- Chun, Wendy Hui Kyong. 2005. *Control and Freedom: Power and Paranoia in the Age of Fiber Optics*. Boston: The MIT Press.
- Irfan, Umair. 2018. "A Major Anti-Fracking Ballot Measure in Colorado Has Failed." *Vox*, November 7. <https://www.vox.com/2018/11/5/18064604/colorado-election-results-fracking-proposition-112>, last access February 1, 2019.

Endnotes

1 In an act of great magnanimity, the industry did promise that they would not use diesel fuel as a fracking fluid because diesel contains a dangerous combination of chemicals (BTEX), even as they promised that the chemicals wouldn't dilute water and so what they used did not matter. Even this self-imposed burden was too much, however. As Wylie points out, TEDX and the Environmental Working Group (EWG) found that the companies used petroleum distillates with these same chemicals even after the agreement.

2 This also opens up another issue. By "everyone" I really mean "everyone in the western developed world." Information is not equally accessible to everyone. Furthermore, health dangers do not only exist in the United States—to stop fracking in the US is to start it elsewhere, and so a myopic focus on the danger to us will simply lead to companies transporting the dangers to the global south and onto ever more vulnerable workers.

3 Landmen are employees of the fracking industry who negotiate the leases necessary for companies to drill on an individual's property.