What I Learned from Following the Frackers

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History and Art History Lecture, date

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First of all, I have to tell you that I make my living at a university that not long ago built a hundred-million-dollar hockey rink that bears the name of a multi-billionaire. Terrance Pegula grew up in Carbondale, Pennsylvania, a tiny town in the anthracite coal region near Scranton, and majored in petroleum and natural gas engineering at Penn State. A lot of his wealth came from buying natural gas rights in shale plays in Pennsylvania, New York, and the Rocky Mountains, then selling them, at great profit, to Royal Dutch Shell for the horizontal drilling and hydraulic fracturing method commonly called "fracking." (A shale play refers to the geology and geography in an area being developed for oil or natural gas extraction.)

Here's what fracking involves: workers drill down about a mile until they hit a shale formation of carbon-rich sedimentary rock – and they know they've hit it because it contains radioactive isotopes. Then, they drill out for two miles or more. The drilling stage involves a rig with a tall tower, which is what most people imagine, if they imagine anything at all, upon hearing the word "fracking." [Fig. 1]

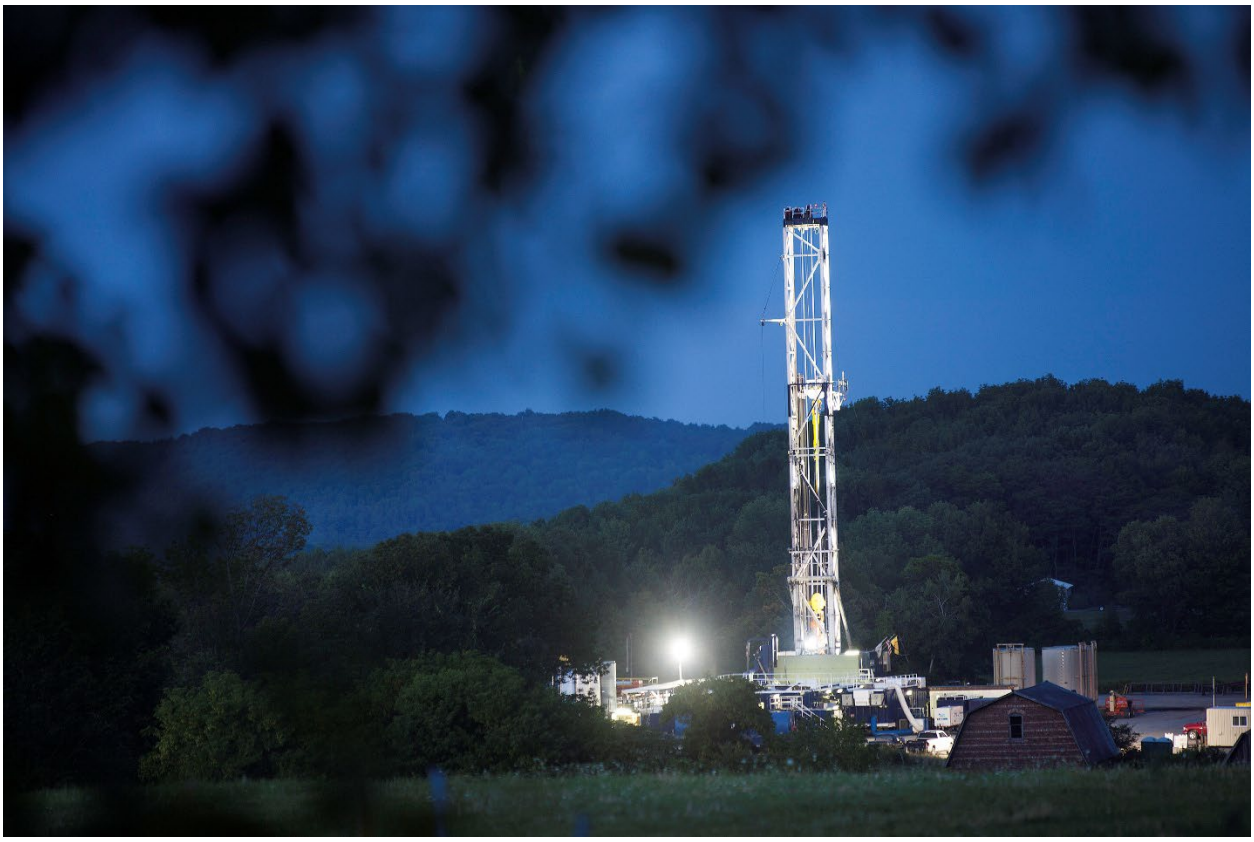

Figure 1. Illuminated drilling rig operated by Swepi, an affiliate of Royal Dutch Shell, along McKissick Road in Delmar Township near Wellsboro, Tioga County, Pennsylvania. August 15, 2016.

But drilling is not fracking, short for "fracturing," which is the process of exploding the drilled bore hole by forcing, at great pressure, between 4 and 8 million gallons of water, along with silica sand and chemicals, such as biocides and lubricants that have been shown to cause earthquakes, in order to crack the rock and release the gas or oil. The fracking stage involves many trucks, rectangular containers that look like box cars, massive diesel generators to create that force, and impoundments for fluids. [fig. 2] A portion, about one-third, of the salty, chemical laced water, or "flow back," is recovered from the fracking process, sometimes it can be reused, but companies are often challenged to figure out what to do with that waste, which cannot be easily returned to the ecosystem. (They have been spraying it on dirt & gravel roads north and west of here.)

Figure 2. A large capacity fracking tank holds flowback water during a fracking operation at the Inflection Energy well pad on Yeagle Road in Eldred Township, Lycoming County, Pennsylvania. The Department of Environmental Protection has cited Inflection Energy for repeated violations at this site, including the company's failure to properly cement gas wells, and for spilling approximately 63,000 gallons of flow-back fluid, which discharged into a nearby tributary to Loyalsock Creek. All of the nearby residents rely on private water wells for their water supply. September 18, 2016.

Figure 3. Separators and other gas-processing components on a well pad inside Tiadaughton State Forest, Lycoming County, Pennsylvania. July 17, 2014.

This is what a well looks like when it's producing in the Tiadaughton State Forest up above the Pine Creek Trail. [Fig. 3]. Most fracked wells will not produce longer than 30 years; the cost of drilling and fracking has been estimated to be at least one million dollars per well. Thanks to profits from natural gas, Terrance Pegula now owns the Buffalo Bills football team and the Buffalo Sabres hockey team, along with a number of other hockey teams, a brand of beer, and a country music label. His 102-million-dollar gift enabled Penn State to become a major player in Big 10 hockey.

Private philanthropy has always been part of academic life in the United States. The Carnegie Library and Schwab Auditorium at Penn State were funded more than a hundred years ago by the world's leading steel magnates, Andrew Carnegie in Pittsburgh and Charles Schwab of Bethlehem Steel. Just as the art museum on this campus, formerly a library, was funded by Carnegie. And this year, I hear, The Mellon Foundation awarded Juniata a grant to build connections between faculty, students, and residents of Central Pennsylvania to help us face regional environmental challenges. Andrew Mellon was a Pittsburgh banker and industrialist whose family held primary shares in Gulf Oil, now Chevron, a fuel

company that until 2020 held (that means they leased property to drill and frack) more than 500,000 acres of land in the Marcellus Shale formation, beneath Pennsylvania, West Virginia, and eastern Ohio.

I'm saying that my work as a poet professor—including the poems I will share with you—and maybe some of your work, too—is supported by funds directly connected to extractive industries that are known to cause environmental and public health threats in this region. The old giants of the Gilded Age are not past; in fact, they've gone global. What can we do about that? I say, drive that grant money like it's stolen!

My project began in 2012 on the back of my husband's motorcycle-sized scooter, riding up Route 15 toward Ithaca. On the side of a ridge north of Williamsport I saw things I couldn't identify: a helicopter overhead dangling a red box from a cable, a deep ditch cut up a swath of cleared timber lined with white pipes, men in hard hats milling around a bunch of white pick-up trucks. I felt disoriented, unable to understand what was happening.

*"*Solistalgia*"* is a word coined by an Australian in 2005 to name a feeling of shock and displacement, even though a person may be at home. She feels homeless because her environment is no longer recognizable due to dramatic changes caused by climate disturbance, like fires or flooding, or extreme extraction.

"What in the world?" I asked the waitresses in Fry Brother's Turkey Ranch, the diner across the road, and they told me these activities are related to fracking, and that the disturbances were mostly welcome around there. At least they hadn't had to lay anyone off at the diner the previous winter. [Fig. 7] And so it began: my project of listening with a determination to keep my mind open and learn, to remain curious and refrain from judgement as long as possible. When I told people I was working on a documentary poetry project about fracking, they often said, "Are you for it or against it?" I had a hard time convincing them that I was not interested in taking a position but understanding the complex factors that contributed to peoples' experience of the industry's impacts. I returned to that restaurant many times as I worked on the book for about 5 years; after about a year and a half, I met Steven Rubin, a marvelous photographer on my campus, who was also documenting the impacts of fracking, so we teamed up. But let me offer a couple of things I learned from that experience:

1. **Place is "the middle of nowhere" for transient workers with broadband**.

Drilling, hydraulic fracturing, and pipeline construction require skilled workers to perform complex, expensive industrial processes in places that are often remote – on mountaintops in state forests, for instance, or on farmer's fields in depopulated rural regions. Thanks to high-speed internet, an engineer in Houston can remotely guide a drill on a mountaintop in Pennsylvania. Workers are brought in for only one purpose, then travel on to other jobs in distant parts of the country. Like mercenary soldiers, they work impossibly long hours under dangerous conditions and rarely have time to learn enough to care

about the towns where they grab a meal and some drinks before falling asleep in a trailer or chain motel. It's easier to wreck a place you don't know and don't call home. (And I would say that sometimes I think professors also act like transient workers, intent on extracting knowledge.) But, I met one tender-hearted truck driver at Frey Brother's Turkey Ranch early in the project who broke the transient worker mold; he told me his name is "Happy." [Fig. 4]

Happy Holds Forth at Fry Brother's Turkey Ranch on Route 15

A tall man with a mullet and jump suit strides
toward a booth by the window, orders
a hot turkey sandwich, water with lemon, and pulls out
The Shack, paperback my mom once urged me to read.

The shack is a house you make from your own pain,
according to the author, a former hotel night clerk.
The man prays over his plate then looks up at me
watching, and smiles. Where are you from? I ask

because that's all I ever think to say. West Virginia,
but I live in Fairchance, near Uniontown. I tell him
I went to Ohiopyle for my prom picnic, and that's
a lovely part of the state he's from. Naah, he says,

it's just a river and mountains where someone
built a hotel and store a long time ago to make
money. Then he waves at the taxidermy:
look at those turkeys—how many eight dollar

sandwiches come off one of those birds? It's just
people taking what they can, like we're fracking
some poor farmer's field out on Route 6 right now.
Calfrac—like it says on the suit—Calgary's the base,

fracking's what we do: we pry the earth apart

with chemicals, sand, water and enough pressure
to strip the paint off your car. It's government and Big Oil
in cahoots, like usual. I have a load of hydrochloric acid

in the parking lot. He lifts his fork. I ask how long
he's worked this job. Five days. It's six on, three off,
six nights on, three off. George Bush—and I voted for him—
changed the law: used to be 70 hours a week in a truck

meant 70 hours, but now, if you're standing or driving
on a service road, it doesn't count. While I wait for my stage
at the well, it doesn't count. Can't sleep in the cab,
can't escape the noise and odors. I'm not a bad person.

Sure I have regrets: wish I hadn't been an athlete,
should have listened to my teachers, shouldn't have
let my sister and girlfriends do my homework.
But I'm not a bad person. I was an ironworker,

had a job in Morgantown supposed to last two years;
it lasted five weeks, so I told my wife I'll drive truck:
warm in the winter, cool in the heat. She's a lawyer
but doesn't make that much. Public defender, she says

everyone deserves a fair trial. But look: what we're doing
out here is not good. I sit forever in the cab and pray,
Take me now! Are you a Christian? I'm sorry,
it's just that I'm so tired. The poison that comes up,

they pump back into wells. It might seem OK now,
but what's to say it will stay put for two years
or ten, or how about when our grandchildren grow up?
You ever read *The Shack*? It's my life, the first five chapters.

I read them over and over. My nick name's Happy.

Happy, I tell him, your lunch must be cold by now.

See what I've done?

Figure 4. Laid off with the industry's downturn after five years working for Halliburton, a worker gets retrained in the Roustabout certification program at Pennsylvania College of Technology's Energy Technology Education Center in Montgomery, Lycoming County, Pennsylvania. October 9, 2015.

Next lesson.

2. **Beware the Split Estate**

In the United States, ownership of minerals buried beneath the earth can be severed from ownership of the land's surface. In most states, the right to extract invisible wealth—coal, oil, or natural gas—takes precedence over the right to farm or enjoy the surface, and owners of mineral rights may buy and sell those rights unbeknownst to the landowners. If someone else sells the rights to mine or drill under your land, you have no choice but to reach an agreement with the extractive agent, even when the means of extraction can be destructive to your property. [Fig. 5 and 6] This was the experience of one

family I got to know in Fayette County. (But really, it’s a generalizable lesson: it's never a good idea to see anything as disconnected.)

A Mother Near the West Virginia Line Considers the Public Health

The industry thinks I’m too dumb to back down; they don’t know
I do this for my Mom and Dad. They were 69 and 71.

He had pulmonary fibrosis, worked with asbestos all his life. She grew up
near the coke ovens back when kids were sent into the mines to pick coal.

So they both had lung problems, but their home, the next hollow over,
sits 350 feet from a compressor station. We sealed the house,

set up an air scrubber, but—four of their neighbors passed last year, too.

*

We bought the coal rights to our 115 acres because we know
the company will come up to your front door, but we let the gas rights go,

just didn’t see this coming. A gentleman from New Jersey leased our land.
One day we come home to find pink ribbons tied in the field. Then bulldozers.

They put in four shallow wells and a Marcellus well on a 5-acre pad 700 feet
from our porch. The workers come in by the busload. All those strangers

on our land, 24/7, could have been rapists or pedophiles. For about a year
they didn’t have a Port-a-John. I looked out my window one morning

to a guy peeing in the driveway. The dog brought in used toilet paper.
The workers have to be young, strong. Kids in trucks 12 to 16 hours a day,

that should be placarded “hazardous waste.” They live on junk food;
I know because we picked up the wrappers. Then our dog disappeared.

We saw Sara's tracks in the snow go right up to the well pad.

*

When crayfish died in our spring, we knew the methane had migrated.
Now you can light it on fire. Our neighbor put in a water line; we guessed

their well had gone bad and they'd settled, but they paid for it themselves.
We had water buffaloes two years before we paid to run a line in from the road.

When they laid the gas pipeline, those big trucks drove over our water line
and busted it up. When I hollered at the drivers, I got dragged into court,

me and our son, four years old then, both got an injunction.
They tried to say I'm an unfit mother, too, but the judge wouldn't hear it.

I look at pictures of my little one from that time, and he has the same dark circles
under his eyes as the Hallowich kids. He'd get terrible stomach pains, nothing

we could do but hold him. My older boy had the nosebleeds and rashes.
I couldn't keep him inside all the time. I'll show you pictures. If you speak up,

you get more security. We had guards here 24/7, armed and unlicensed
in Pennsylvania. They got real interested in my walks down by the crick.

One asked me, What do you do down there in the evening? I said, I walk
and I have pawpaw trees, want to come along? He could have used

the exercise, so he walked with us, and I got to know the night guard.
His mom was sick the same time mine was. We're still in touch on Facebook.

*

They drilled the gas pipeline on a weekend, didn't go where the DEP said,
so it blew out in our crick—bentonite and residual waste clouding

clean water stocked with trout. That's when I cried. That crick flows
into the Mon, and people get their drinking water out of that river.

Another side effect of the drilling no one thinks about is all the swearing.
And it's not just the men.

*

"Alternate waste disposal on site" means they can bury radioactive
drill cuttings in your land. When they drained the frack pits,

they shook the tarp and bulldozed the sludge into the ground, too.
There's places we mow now, but we don't feed that hay to our horses.

I can't dig or plant a post there. Why don't they tell us
not to grow food or let beef graze back there?

The stock sale registers animals now, so if I sell hay to a neighbor,
he sales his steer, and someone's sick from the meat, that comes back on me.

*

People collect royalties on this well a mile away. We just care for the place
and pay taxes. The well tenders come about once a week

to the shallow wells and every day to the Marcellus. Two or three
times a week water trucks come in here and draw brine, and every two weeks

they blow it down, so whatever's on the line goes into the air.
Once the brine tank vented for 45 minutes. My horse's eyes swelled shut,

and one went blind. They've had the nosebleeds. There's a big gum tree
near the well that loses its leaves in the middle of summer.

*

We saw clouds of silica sand blow off train cars over the little league field,
and someone was holding a newborn there with us in the stands.

When I complained about them parking silica trains by the elementary school,
the gentleman said, "It's just sand; your kids play in it."

*

We didn't have internet before this, but you have to follow the permits
because the industry tells you nothing. You have to go to the courthouse

and pull your file, and when you find out what they did to your land,
you're just sick. Let them think I'm too dumb to back down. My son

won't play on any T-ball team with industry logos on their shirts.

Figure 5. Horses graze near a home and gas separator and well pad in Springhill Township in Fayette County, Pennsylvania. The residents own the land but not the gas rights and ended up with five gas wells (four shallow and one Marcellus) on their property. Two wells are located in the front yard, less than five hundred feet from their house. June 30, 2015.

Figure 6. Bubbles of methane gas float to the surface in a family's spring in Springhill Township in Fayette County, Pennsylvania. The family's horses stopped drinking from the spring after it began to bubble. The bubbles appeared soon after gas drilling started nearby. June 30, 2015.

Conclusion

As I worked on *Shale Play*, the work changed me: made me notice every truck on the highway, made me wonder about every disturbance I saw on the land—who was digging and for whom? I came to see how much I care about what happens to people and land in these out of the way places in Pennsylvania where I grew up, and where I live now. And it changed my future work.

Curiosity and listening became my greatest powers—and my greatest pleasures. So, I want to encourage you to get out into the world – to keep your ear to the ground right under your feet.

And I want to say that things can change. (Even in these dark days, I promise you that things can change.) As work connects us with other people and the places we inhabit, those connections will change us—and sometimes our work can change the world.

For example, do you see that "frack" seems misspelled on this sign? [Fig. 7] That's because this is the industry spelling, a shortened form of "fracturing" but this is now the official spelling of the word in the dictionary, due to handwritten and printed signs carried by protesters! [Fig. 8]

F Word

The industry spelling of fracking is actually *fracing.*
Without the K, it looks less violent:
water pressure creates fractures that allow

oil and gas to escape—as if they
were trapped—*under tight regulatory control.*

Blame the *fracktivists, frackademics*. A bumper
sticker claims, *I'm surrounded by gasholes.*

Frack her 'til she blows, says the tee shirt stretched
on a roughneck's belly at the Williamsport Wegman's.

Frackville, PA, named for Daniel Frack, *vrack*
from middle low German: greedy, stingy, damaged,

useless. *Are you going to say what the word suggests*,
a student timidly asks, *...to women, I mean*?

Fracket, a sophomore explains, is that hoodie
worn over a spaghetti strap dress to a frat house,

an old jacket that won't matter if it gets stolen
or left behind on a flagstone patio, splattered

with someone's else's vomit.

Figure 7. Frac Lane street sign in Charleston Township in Tioga County, Pennsylvania. A Shell Appalachia well pad with multiple code violations is located at the end of the lane. May 12, 2015.

Figure 8. Anti-fracking activists protest Governor Corbett's visit to the annual Memorial Day celebration in Boalsburg, Centre County, Pennsylvania. Three days before, late in the afternoon of the Friday of Memorial Day weekend, the governor issued an executive order to allow natural gas drilling under state parks and forests, overturning a 2010 state moratorium on new oil and gas leasing of public park and forest land. May 26, 2014.

Note: This talk was adapted with permission from a longer, published essay: "Beautiful Confusion and Real Material: What I Learned from Following the Frackers," *The Fourth River*. 9 December 2019. https://www.thefourthriver.com.