Walsh: What's the fracking problem?

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I was introduced to hydraulic fracturing, or "hydrofracking," by a graduate student in geology who loudly offered an unsolicited opinion one night in a bar: it's the way of the future, he told me. Hydrofracking! No more dependence on coal, but clean-burning natural gas instead. No more need to clear mountains, just neatly punch a straw down into a chamber, spray it full of water, and suck out all the gas. Voilà!

The promising bonanza has spurred an East Coast land grab by major energy companies. Great migrations of workers and capital are camped along an underground spine of rock called the Marcellus Shale. This is where the newest generation of prospectors have thrown in their hats. From New York south to Virginia, and touching most states between, companies have anted up, and boy are they busy!

But the process of hydrofracking is not, it turns out, so perfectly neat and harmless. It is not a straw sucking up gas. And some two years since interest in the Marcellus Shale has exploded, we're seeing the creeping and willfully ignored problem of unintended consequences. While hydrofracking has, in fact, been used commercially since the '50s, it has never been pursued at the scale or under the geologic conditions we see today.

Increasingly, news coverage has been uncovering some of the problems with hydrofracking. Take this recent article in The New York Times: "Fracking Companies Injected 32M Gallons of Diesel, House Probe Finds." Or from The Dallas Morning News: "Gas in Parker County home's drinking water puts drilling, EPA in national spotlight." The documentary "Gasland," shown at Yale's Environmental Film Festival last year and now up for an Oscar, spotlights the devastating side effects of the hydrofracking boom, and online exclusives from NPR show video of black water flowing into bathtubs and flammable tap flows in eastern fracking towns.

So we're learning that hydrofracking is problematic. But so is mountaintop removal, and so is the refinement of uranium and plutonium for nuclear power, and so is the construction of dams for hydropower. Manifold tensions

connect energy demand to concerns over human rights and justice to issues of environmental protection, and these tensions point to a central challenge of regulation: how do we govern what's new? How do we manage ignorance? A man can devote his life to understanding the work of a single protein and still not come close to full comprehension. How are we to proceed in a regulatory realm of endless uncertainty and social complexity?

There are two places to start. First, with budgets. Emerging from the history of the industrial revolution is an oddly binary picture. The rate and robustness of innovation has grown exponentially. Technology now advances with breathless swiftness. And at the same time our knowledge and competence in the governance of this technology has remained essentially flat. One cannot know with any certainty the effects of a new technology before its release; but we invest, both publicly and privately, a laughable sum in governance and understanding of new technologies compared to the creation of these technologies. It is no wonder that the innovation curve so far outpaces the tailing governance curve. We ought to put more funding into departments like the White House Office of Science and Technology Policy.

Second, we must invigorate widespread public debate and consideration about the fundamental role of technology in our society. We should use the incredible tools we've developed for communication and analysis to deepen our understanding of these new technologies. Conceptions of value-added should be spurred to focus less exclusively on the creation of the new, and more wholly on a concerted and thorough attempt to understand what already exists. This understanding, of course, might by choice or necessity come through innovation, but it need not. Without a stronger and more unified idea of where technology fits in our society — and with hydrofracking as one among countless examples — we'll continue blind and prone to Emerson's prescient lament: "Things are in the saddle, and ride mankind."

Dylan Walsh is a second-year student in the School of Forestry & Environmental Studies.

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Nice Emerson quote.

I grew up next door to a Yale Forestry prof in the 1950's. He was always flying to South America to study the Amazon forests.

Both are gone now.

Here's a Faulkner quote: *The poet's voice need not merely be the record of man, it can be one of the props, the pillars to help him endure and prevail.*

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