

*Story-telling as an Act of Translation*

First, hearty congratulations to the Marcellus Shale Stream Monitoring Coalition, winners of this year's Johnson Award and to the countless individual members of that coalition who coordinate the data collection, calibrate equipment, and trek—weekly, monthly--into those sometimes not-so-accessible spots in Garrett County to do what's necessary to protect what matters.

Thanks to Kristin Kehrwald and Eric Davidson for this evening's event and to Fred Powell of Main Street Books for coming out tonight and to everyone else who has worked behind the scenes.

I also want to congratulate the many people behind the Johnson Award, especially Barbara Johnson, for continuing Richard Johnson's legacy and for promoting the importance of environmental education. It's just this kind of recognition that encourages interdisciplinary inquiries and solutions, which are, by my lights, the only ones that have any hope of making a difference. That's the idea I'd like us to consider together this evening.

But first, let me tell you two quick stories. The first is one that circulates among poets and essayists, like me, who often write about the natural world. It goes like this:

A barn is burning. Flames are ravaging the structure, burning embers are falling from the rafters. A group of people has gathered. One of them is the farmer who's leading the cows to safety. Another is the firefighter who is spraying down the walls. Nearby an ecologist is assessing possible damage to the surrounding fields, thinking about effects of charred hay and scorched dirt on the resident population of field mice.. Another is an insurance agent who's

calculating value and loss. And off to the side is the writer who's taking detailed notes about who's doing what, the color of the flames, the worried looks on everyone's faces. Nobody cares if the writer is around. This is a crisis, after all, and what's needed are people who know how to take action.

Second story: One of the most troubling comments I used to hear from undergraduate student writers is the one in which they blithely excuse inaccurate or nonspecific descriptions of the natural world because, as they used to say, they're poets, not scientists. And they often said this with a kind of weird pride, as if the work of scientists were too rational and tedious to be bothered with, too literal and unimaginative.

They wanted to give their imagination free reign, they would tell me. They wanted to let their hearts spill out onto the page in whatever tsunami of emotion they happened to be experiencing at the moment. They did not, in other words, want to feel bound by the need for precision, for finding the exact right phrase for whatever emotion or object or landscape they were trying to describe, and they sure didn't want scientists around who would object to their putting palm trees in a poem about the arctic. This is the arts, after all, and the only thing they thought they needed was an unfettered imagination. All of this meant, of course, that they were likely to be lousy writers.

Both of these stories are emblematic of what C.P. Snow in 1959 labeled the "Two Cultures" In that famous essay, he lamented the great cultural divide that seems to separate two primary areas of human intellectual activity, "science" and "the arts."

And it's true that there are some big differences in how scientists and artists go about their work. Two fairly obvious ones:

1) In an effort to investigate something “objectively,” scientists aim to exclude the messy world of human emotions and human bias, while the artist’s aim is often the opposite: to explore something about that mess.

2) When scientists communicate results of their work, they do so with the intention that other scientists could duplicate their procedures and obtain the same results.

But when artists show their work, they do so with the hope that the work reveals what it reveals in a way so unique that nobody else could duplicate it.

In his argument, C. P. Snow claimed that the quest to deepen human knowledge would require that experts in both fields learn how to build bridges between the worlds of science and the worlds of the arts and humanities. I think there are two basic ways of bridging this gap.

1) First, as when any two cultures “collide” the initial step is to look for similarities. As different as the arts and sciences might appear to be it’s also true that

a. Both disciplines are interested in the unknown.

b. Both assume there is no final vision that will cause the rest of the work to cease.

c. Both, as my scientist son reminds me, begin by stumbling around some scape of infinite possibilities, proposing, testing, discarding what doesn’t work, keeping what does, even if it seems forbidden.

d. It’s true that artists might assemble, where scientists connect the dots, but a hypothesis worth its salt soon gets funneled into the scientific community, whose job it is, in fact, to re-assemble. It could be, then, that what’s at the heart of both disciplines is actually much the same: “I’m trying to act more as a medium to reality,” my son tells me, “and it’s my job to try to be faithful.” That’s true of artists too.

- e. Another similarity: an elegant scientific talk can be like a powerful piece of art: something is exposed that wasn't seen before. Some perspective is revealed and thus the pieces of the world in our minds are slightly (or not-so-slightly) rearranged.
  - f. Both disciplines are subject to massive distortions designed to fool the public. Scientific results are routinely squelched or twisted or dismissed for political and economic reasons, as happened, for example, to Rachel Carson's research, along with research on the health risks of smoking, acid rain, and climate change. As most writers know, language is endangered for similar reasons, its precisions diluted and its pleasures twisted for purposes of advertising and group-think. We have an obligation—all of us--to try to be aware of how both scientific and artistic work gets told—or doesn't--and by whom and for what purposes.
  - g. Finally, it's good to remember that, as Nobel Prize winning poet Czeslaw Milosz has written, "the incessant striving of the mind to embrace the world in the infinite variety of its forms with the help of science or art is, like the pursuit of any object of desire, erotic. Eros moves both physicists and poets."
- 2) In addition to acknowledging similarities between the two disciplines, a second way of bridging that gap is to consciously undertake the challenge of what biologist Gary Nabhan calls cross-pollination: exchanges back and forth across that so-called divide. I think of this task as one of translation, the kind that has to happen whenever any two cultures, two ethnic groups, two tribes meet and try to communicate with another. And I think that one of the crucial strategies for that kind of translation is the telling of stories.

It's an innate human tendency to wish to fashion from disparate pieces some kind of form, to isolate and discard irrelevant details, to search for patterns and see what things cohere, all of which means, ultimately, to shape a story. Story, after all, links complexities of relationships and has the power to shape our experiences, make them resonate, lock them into memory. Stories can make an abstract idea, a hidden dilemma, a landscape, feel alive.

Like it or not, hard data and statistical analysis are probably not going to start grass-roots movements to live more sustainably, and though science-based research provides—or ought to provide-- the necessary foundation of any environmental movement, that's not what seems to move policy makers either. What we need are folks who can translate that data into the story-telling language we all share, complete with characters and conflicts and the hope for resolutions that the lay public can understand and be moved by.

We need people who can maintain the integrity of the science while infusing it with human emotions, who can move it from the sometimes macroscopic, sometimes microscopic worlds and into the living rooms and day-to-day lives of ordinary people. I'm thinking not only of Rachel Carson but of C.S. Lewis and Sandra Steingraber and Elizabeth Kolbert and many others. And of the book *Don't Be Such a Scientist*, whose author promotes story-telling scientists.

We also need stories not just for how they often bring the seemingly abstract into the human realm but also for how they can serve as universal antidotes to single-mindedness. A multiplicity of stories –verifiable in the world of science and convincing in the literary one--can be a prevention against the belief in the singular story, any singular story, which lies at the root of fundamentalism. An antidote to fundamentalism is the sure irrefutable evidence that it's possible to live in a world with many stories, many creatures, that, in fact, such a many-storied

life makes survival more possible because we stop killing off those whose story is not consistent with our own. The presence of many overlapping, intersecting narratives—of the rocks there, brook trout here, native people, visitors, the writer, the reader, reminds us that we all live — consciously or not—within the larger contexts of other stories--which might teach us something about connections, coherence, diversity, how things hold together and what can tear them apart.

If Barry Lopez is right when he says that the “environmental crisis is no such thing: it is not a crisis of our environs and surroundings; it is a crisis of our lives as individuals, as family members, as community members, and as citizens” then the creation of not just sensory and not just scientific relationships to place but *storied* ones is one way to start re-forming our responses to one another and to the places we call home. I’m heartened by news from a major workshop on Global Sustainability that took place in Zurich last month. Among the many questions that guided that think-tank effort of world-renowned scientists was this one:

*4. What is the nature and role of narratives (particularly around development, futures, justice, risk and disasters, conflicts) in driving human behaviour and social change, including decision-making? In what ways might these narratives influence risk mitigation and inspire transformative action towards sustainability?* (from FutureEarth—Research for Global Sustainability workshop in Zurich March 2016).

Just asking that kind of questions seems like a step forward.

Bridging the gap between science and the arts by the making of stories matters, now more than ever. Those stories can affect policy (as Rachel Carson’s work did); they can make our surroundings less abstract and therefore more tangibly part of who we are, they can galvanize us

to marvel and lament, and they can bring to the lay person scientific news of the universe that can deepen our understanding of how our actions harm or benefit this planet.

That schism C.P. Snow wrote about is bridgeable. We can remember, first, that the disciplines, those seemingly different the ways of knowing, have, in fact, a lot of similarities, and, second, that one of the ways of capitalizing on those similarities is to acknowledge the importance of the common language of stories.

What kind of stories? The ones about crises and doomsday are easiest. But let me read a short paragraph from Per Espen Stokness' book *What We Think About When We Try not to Think about Global Warming*:

“Martin Luther King had a choice when standing in front of the crowd gathered before him at the Lincoln memorial in 1963. . . .he could easily could have leveled accusations and stirred the anger of his followers. The civil rights struggle had been long and hard, injustice severe, and King and others had encountered death threats and danger. Striking back would feel just. Focusing on the bigotry, partiality, and discrimination would have been easy. The microphone was on. Silence was spreading through the crowd. Now what to say? Under immense pressure, he began with the words we all know today, ‘I have a dream . . .’” (Stoknes 139).

So in that dreaming spirit and in the spirit of the Johnson Award, I'd like to challenge us tonight to keep finding ways that we here, in this Western MD community, can work to make story-telling a more viable bridge between the arts and sciences. I'm actually enough of a dreamer to imagine that some of the ideas I'm about to offer will spark someone's interest here in this group, and that that someone will step forward and make something happen:

There's a handout on that back table where Fred is sitting that lists a bunch of ideas about how to do that, but let me just highlight a few:

- A. In terms of school curricula – support the increasingly crucial move to incorporate more art in the STEM curricula, moving it, as they say, from STEM to STEAM
- B. Support the No Child Left Inside coalition that promotes Environmental Education and insist that environmental literacy curricula include the arts and humanities.
- C. At Rocky Gap, New Germany, Swallow Falls adopt an artist-in-residence program.
- D. Here at the Appalachian Lab, look for funding for an “Artists in Labs” program
- E. Support the expansion of the arts and nature projects we already have—the sculptures along the Allegheny Bike Trail, for example.
- F. Support nature camps in local parks that include a healthy dose of artistic play
- G. Develop a local version of NPR’s “The 90-second Naturalist” to be broadcast on WFWM and other local stations and/or printed in the Cumberland Times or Oakland Republican
- H. Spread the word about the online challenge called “Ten Hundred Words of Science” in which complex scientific concepts are explained using only the thousand most used words in the English language.
- I. Check out the “Dance your Ph.D” challenge
- J. Support the national River of Words programs that encourages poems and art projects based on local watersheds. Push local school systems to participate in this annual competition.
- K. Here's something else we desperately need: Good, well written children's books about the natural world. We don't need shrill or strident voices in children's libraries,



but we need well told, science-based stories that appeal to kids of all ages. FSU's Children's Literature program does a fabulous job of highlighting kids' stories; maybe we can support an increase in their focus on environmental issues.

Why finally does this analysis of the intersection of these "two cultures," as C.P. Snow labeled them, matter? Why even think about the ways we "spacey" artists and you "geeky" scientists might work together to bridge that gap?

Because now in 2016 if that burning barn I started this talk with is the planet earth, then we need the whole gang here—the farmers and food producers, those who can calculate losses and gains and certainly the scientists because you/they are trained to figure out—with both rigor and imagination--how this world works. And certainly we need the artists, because we too have an obligation—to discover in poetry and prose or whatever our medium--the difficult, often unsayable truths of our lives here and now on the possible brink of disaster-- and to imagine the stories, including those of resilience, that might help us to move from here to whatever is next.