

Climate Change Persuasion

by Hugh Rogers

Early Saturday morning, December 1st, at the Law School in Morgantown, Tom Rodd is bouncing around the lobby, greeting, quarterbacking, telling stories. Coffee and Danish are available, but that's not what spins his turbine. His latest project, "National Energy Conference 2018: Climate Change Issues Update," has drawn a noisy crowd. Friends and allies are here for further instruction.

First, we notice a space on the my-name-is stickers. We are to fill in the parts per million of atmospheric carbon dioxide as of our birth year. In case our brains haven't stored this information together with our Social Security numbers, there's a table on the table. Tom and I, pre-Boomers, register 310 ppm; compare today's 408.

Getting an audience to *do* something beyond listening is a typical Tom move. Years ago, I watched him teach an introductory class on environmental law. He put two students in a makeshift ring, and then he tied one's arm behind his back. They got the message. These days, white-bearded Tom has more fun clowning with kids in the middle and elementary grades. They dress up, perform skits, blow bubbles, and learn. They're not self-conscious.

If a title is necessary, Tom wears this: Director, Allegheny Highlands Climate Change Impacts Initiative. His directorship is tucked under Friends of Blackwater, a co-presenter of the conference with Appalachian Stewardship Foundation. It was sponsored by the WVU Law Center for Energy and Sustainable Development.

So: Climate Change Issues Update. For this report, we'll separate the issues from the update. Communication and education are crucial issues here in West Virginia, the state with the largest percentage of climate change deniers.

The update focused on methane emissions, carbon pricing, and solar energy opportunities in the state. We'll cover those another time.

First up was now-famous Rafe Pomerance. Some of us on the Highlands Conservancy board knew him before he starred in a special issue of the New York Times Magazine on "the decade we almost stopped climate change." In that decade, 1979-1989, Rafe was a "hyperkinetic" lobbyist for Friends of the Earth. Thirty years later, he's chairman of Arctic 21 and a consultant to groups working to put off the drowning of Florida. He says, "The fate of Greenland is the fate of Miami." (If you haven't read that magazine, you should: www.nytimes.com/interactive/2018/08/01/magazine/climate-change-losing-earth.html.)

Rafe made these two points: we are now living in the Anthropocene, the age in which the most profound changes to the planet are and will be caused by human beings. To avoid extinction, we will have to override our innate neural circuitry that puts "me" first, and make collaboration our go-to instinct.

He reminded us that popular attitudes have been colored by a legacy of disinformation, especially attributable to an Exxon-Mobil campaign and carried forward in popular media.

The most effective approaches going forward will focus on local impacts. For example, once the issue is well understood in Florida as an existential threat, that's it for the Republican deniers. They can't win the presidency without Florida. By the same token, once a plurality in West Virginia fully recognize the harm, for example, the repeated catastrophic floods, they'll support the remedies.

For the present, any legislation must be bipartisan, and emphasize innovation, i.e., a positive approach.

Rafe pointed to the very recent, very stark National Climate Assessment. Trump appointees did not bother to rewrite it—they prefer simple denials of facts—but they did release it on Black Friday, the worst possible news day. That backfired. The Times and the Washington Post featured it “above the fold” and it got prominent coverage in other media.

The first panelist, Dylan Selterman, who teaches psychology at the University of Maryland, has achieved notoriety on Twitter for using game theory to adjust final grades in some of his courses. A student could choose to improve his grade by two points or six points; however, if more than 10% of the class chose the latter, no one would gain any extra points. Consistently, 80% or more chose the two-point option. But not 90%. They did not gain their reward.

Selterman referred to a 50-year-old paper well-known to anyone who has taken an environmental law class, Garrett Hardin’s “Tragedy of the Commons.” Where everyone tries to maximize personal benefit from a common resource, the demand will overwhelm the supply and everyone will suffer. Possible solutions are (a) “behaviorism,” i.e., rewards and/or incentives for cooperation; (b) role models who encourage cooperation; and (c) social norms that do the same.

Recently, Selterman has offered his students a third option: if they chose zero extra points, they could offset the “overconsumers” who chose six, thus reducing their number below 10% and allowing the rest to get their bonus. It has worked! A few people can make a difference. We might add, above, a solution (d) for altruism. Can it be scaled up?

Tina Cartwright teaches science education at Marshall University and as a specialist in the Cabell County Schools. She has seen how students’ understanding of climate change is affected by their “home climate.” I think that was meant to be understood physically, economically, and psychologically.

In 2015, the West Virginia Legislature “softened” the national standards for science classes in the 5th, 8th, and 12th grades. Too many mean things were said about coal. Cartwright was reminded of the fight over teaching evolution forty years ago. But in 2016, Next Generation Science Standards were adopted by the state Board of Education. Surveys that had consistently shown both students and teachers minimizing climate impacts of coal and automobiles found a major shift since implementation of the new standards.

Brandi Gaertner, a doctoral candidate at WVU, teaches environmental science at Alderson-Broaddus. She showed us a pickup truck in the sun. 85 degrees outside, 140 degrees in the cab. Short-wave energy gets in, long-wave energy can’t escape. An easily understandable introduction to the greenhouse effect. Then she assigned us worksheets on which we were to interpret certain numbers on another simple illustration, sun, earth, and clouds. We were encouraged to collaborate. By the way, she mentioned her students’ attention span was “less than a goldfish.” They have to *do* something every five to seven minutes.

Here’s a simple number I didn’t know: the average temperature of our planet is 59 degrees F. Pleasant! Cheers for the greenhouse effect! We don’t want to eliminate it, we just want to curb our excessive enthusiasm.

Amy Hessler teaches geography at WVU. She too wrestles with how to present the data to students who wonder how “we can be so sure” about climate change. Against a background of 2000 years of paleoclimatology, she compared the atmospheric changes to “natural forcing,” i.e., what we would expect without human intervention. Fossil fuel burning left a traceable “chemical fingerprint”. Two graphs, of temperature change and the Dow Jones Industrial Average since 1870, showed an amazing congruence. It’s not just coal, it’s *all* industry. To stay within 1.5 degrees C net planetary warming will require net zero emissions by 2055. We are burning

through our CO₂ “budget” at 42 gigatons per year; we have 14 years at this rate. Amy wanted students to leave her class knowing: The level of change required is daunting. Any reduction is good. All solutions are on the table. Challenges promote innovation. There is opportunity in change.

Emily Calandrelli, “the space gal” TV host, has found West Virginia audiences receptive to her talks on scientific literacy as long as she sticks to topics such as vaccination scares and flat-earth societies. When she brings up climate change denial, though, things get tense. People find it difficult to accept facts that don’t align with their worldview. Dylan Selterman had explained that knowledge, by itself, is not persuasive, because of our tendency toward “motivated reasoning”: we use our reason to confirm our beliefs.

So, what to do? Calandrelli had two pieces of advice: first, be nice—insistence will backfire; second, “bait the hook to suit the fish.” You have to base your appeal on your audience’s values. The example heard most frequently, and repeated by our speaker, relied on the typical West Virginian’s support for the military. The Pentagon has recognized climate change as a serious challenge to our national defense. That’s supposed to do it.

So far, of course, it hasn’t worked on our congressional representatives. But as our schools teach science accurately and effectively, and graduates grow up and vote, the issue will probably be resolved as Schopenhauer predicted: “All truth passes through three stages: first, it is ridiculed; second, it is violently opposed; and third, it is accepted as being self-evident.” Acceptance of climate change seems inevitable. The trouble is, we don’t have time to wait.