

Custodians of the strong force

In high school, I was singularly focused on building a life in math, physics, and philosophy. I was drawn to the purity of ideas, their remoteness from everyday life. I wanted to be elevated from the mundane.

But getting into a decent school meant listing extracurricular activities on my college application. I can't say why I signed up for Model General Assembly; it couldn't have been further from my interests. Students in MGA pretended they were members of Congress; they held debates on imaginary bills and followed strict protocol, learning who stood and spoke when, how to yield the balance of their allotted time, that sort of thing.

I generally dislike clubs, and I despise meetings. I put nothing into MGA and, naturally, I got nothing out of it. What is the purpose of arguing if you can't count on a true marketplace of ideas, where all may compete, but only the best survive? In science, you could safely place your trust in the merits of an idea. The scientific method assured, at least in principle, that humans were at their best, relying wholly on the power of reason to sift out bias and champion the truth. That would be my stance for the next decade.

But circumstances changed. Our leaders so overstepped their bounds that the integrity of science was threatened. And science was my territory.

Just as a particle in an atomic nucleus doesn't feel the tug of the strong force until it begins to stray from its partners, the shared ideals of science and our government became obvious only when they were nearly severed.

The strong force is what holds the nucleus together, overcoming the tendency of the positively charged protons to repel each other. The force is weakest when the particles are close together, and grows stronger as they move apart.

So it is with science and government. When science and democracy are properly bound, we take for granted what holds them together. But when the shared values of science and democracy are threatened, their commonalities become more salient.

For a while, I eschewed the plethora of political editorials and features in my science magazines. I wanted to stay in that special place where politics doesn't encroach on science. If we all ignored the assaults, they might just stop.

But the voices of willful ignorance grew louder and continued to dictate public policy until finally I grew fearful. It became clear that an attack on

science is an attack on our peculiar form of government.

Our society depends on a public marketplace of ideas. There, we must work together to sort the best from the rest. Public policy is shaped not just by an informed public, but by one accustomed to seeing competing ideas struggle for prominence according to a set of norms—a public that endorses the shared values of science and democracy.

Our recent democratic crisis resulted in the strongest level of civic involvement I have ever experienced. I have become engrossed with policy and obsessed with politics. In one disturbing and telling moment, I caught myself marginalizing science—dismissing it as a pet cause, important but not critical to the election. This is the grave mistake; without science, democracy fails.

I hold these seemingly incongruous truths to be self-evident, that the scientific method corrects for human fallibility, and that it takes fallible human beings to apply the scientific method. Democratic government is founded on scientific ideals, and any institution founded on scientific ideals requires stewards. When my attention strayed too far from my obligations as a citizen, a democratic crisis yanked me back. When I strayed too far from science in my pursuit to heal democracy, I bumped right into the plain fact that science is central to democracy. Poor science literacy and a habit of marginalizing science have placed our democracy in jeopardy, and fixing both requires that each of us take seriously our obligations as custodians of these fragile systems.

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