
March for Science: The Blurry Line Between Values and Facts

Wednesday, February 22, 2017

Author(s)

Rudy Kahsar

Scientists of all backgrounds are fighting back against anti-science rhetoric sweeping American politics. They are speaking out, planning runs for office, and organizing a worldwide March for Science on Earth Day 2017. One point of particular focus is anthropogenic climate change, a settled fact in the scientific community, but an issue that remains subject to partisan debate. There is a lot at stake, and in the interest of furthering positive engagement and communication between the public and the scientific community, it is worth examining the roles of facts and values in the scientific process.

Values are inherent in the scientific process, dictating what research is funded and how research is conducted. This process produces facts, objective and verifiable observations that can be used to make public policy. Policy is however another value-based step, and both democrats and Republicans have been known to use science when it supports their values and to question it when it does not align. For example, many Republicans are well known for their skepticism of climate science, while many Democrats have remained skeptical of the food safety of GMOs; both parties are guilty of questioning the validity of scientific results when it conflicts with their values. In theory, value claims about scientific facts should only be assigned during the formulation of public policy, but unfortunately these value claims have increasingly infiltrated scientific facts as political groups have lumped the scientific method and policymaking into a single step.

On Earth Day 2017, Washington and many other cities across the U.S. will host the March for Science. According to its website, the March is not about scientists or politicians, but about the need to respect and encourage research that gives us insight into the world. The March calls for recognition of the non-partisan nature of the scientific method and the integrity of the scientific community's results, both of which have been repeatedly attacked by lawmakers, many of whom currently hold office. But, in its connection with Earth Day, the March risks an inherent bias toward specific policy actions of protecting the earth.

Scientists overwhelmingly lean left. In a 2009 Pew research poll, 81% of scientists identified as Democrats or leaned to the Democratic Party, compared to 12% of scientists who either identified as Republicans or leaned toward the Republican Party. The beauty of science is that this bias should not skew its findings. The impartiality of the scientific method produces facts that are (in theory) independent of opinion.

People, however, have opinions. In another 2015 Pew research poll, 75% of Democrats said that the

US should favor alternative energy technologies compared to only 43% of Republicans. This value claim, aimed at reducing carbon emissions to protect the planet, has become associated with the Democratic Party. It is also a claim that has become associated with scientists.

For example, the 314 PAC was set up to fund the political campaigns of scientists, but perhaps on account of Republican hostility to the scientific process, has so far only funded Democratic candidates. The site's Facebook page contains statements such as: "We can stop climate change. We must change congress." This is a worthy value claim of someone using scientific knowledge to care for the environment, but it is not a valid claim of the scientific method.

No experiment or measurement can show that we *must* do anything. Scientific evidence may show that climate change will result in three meters of ocean rise, that there will be a significant decrease in the production of food crops, or that there will be an extinction of 40% of the world's species--it may even show us how to mitigate these changes--but it cannot make our value decisions for us, it can only inform them. Science requires a dispassionate arbiter, and the dedicated scientist must be prepared to give evidence without demanding action. It is separately, as a private citizen, that is not only acceptable but a democratic obligation to take those facts and make value claims about them and to shape public policy.

This is not to say that scientists cannot or should not have values. Scientists, like other citizens, seek to apply their knowledge to solve problems they see as valuable. The March for Science is warranted, but science advocates should be careful not to mix their support for the integrity of the scientific process with value claims about public policy. Climate science shows that the earth is changing, and can also help us understand how to prevent it from changing, but it cannot ultimately tell us what to do. The choice to hold the March on Earth Day, an event centered around protecting the environment, implies a connection to the Democratic Party rather than scientific values.

I am a scientist and I left a life in the outdoors to come work in Washington. I know that many Americans see the environment as something worth protecting, and these advocates need a scientific record that is not marred in partisan controversy. When thousands of people march for Science on Earth Day 2017, they will walk a fine line that risks conflating the values of the scientific method with the values of how science should be used to make policy, a risk that might further harm public respect for science.

Some scientists may read this article and feel frustrated by the prescriptive value claims that have infiltrated science, but if you want to be respected as a scientist then you too must be prepared to offer dispassionate facts. And if you care about the environment, you should protest as a citizen who cares about the environment, and be wary of using your scientific hegemony as a weapon of values, lest it be undermined or turned against you.

1. Pew 2015. <http://www.pewinternet.org/2015/07/01/americans-politics-and-science-issues/>
2. Pew 2009. <http://www.people-press.org/2009/07/09/section-4-scientists-politics-and-religion/>

Image: taken from Pixabay.

Source URL:

<https://www.aaaspolicyfellowships.org/blog/march-science-blurry-line-between-values-and-facts>

List of links present in page

- <http://www.pewinternet.org/2015/07/01/americans-politics-and-science-issues/>
- <http://www.people-press.org/2009/07/09/section-4-scientists-politics-and-religion/>