



I Do Science Policy. What Does That Even Mean?

Wednesday, November 2, 2022

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I took a AAAS Science & Technology Policy Fellowship to get a taste of science policy. I expected surprises, but I thought I had a decent sense of what **science policy** would consist of: some mix of **science for policy** where STEM experts contribute their knowledge to legislators, regulators, and other policymakers, and **policy for science** where policymakers determine what scientific activity the government will sponsor or undertake and how. One of the main activities, surely, would be producing policy memos like the ones STPF semi-finalists write: I would extract insights for policymakers from technical minutiae.

That neat picture bore little resemblance to what I found.

To be sure, some fellowships aren't far from what I imagined. But as a fellow in the State Department, working on intersections between technology and human rights, what I encountered was

a very different notion of “science policy” or really, a different notion of “policy.” And after comparing notes with other fellows, I don’t think the recalibration I experienced is uncommon.

For those of us considering transitions into science policy, or even just deciding about a fellowship placement in a “policy office,” knowing what we and others mean by these phrases can be crucial. As I progressed from applicant to finalist to fellow, I encountered three conceptions of science policy, all of which I believe are worth keeping in mind and may help future and current fellows navigate the science policy realm.

1. The popular conception: laws, rules, and procedures

My initial understanding, which many other fellows seem to have shared, was that policymakers set down the rules governing the behavior of some group—the federal government, all citizens, farmers, etc. These rules might dictate obligations (e.g., procedures to follow or taxes to pay) and/or prohibitions (e.g., places you can’t go or ways you can’t advertise your product), as well as consequences for following or breaking the rules.

Naturally, this conception of policy includes legislation, as well as binding regulations from the executive branch. It would also include an agency’s internal guidance on what the organization must or must not do—e.g., the USDA’s (US Department of Agriculture) guidelines for preventing and handling workplace harassment.

Science policy would then include using scientific knowledge to inform what laws, rules, and procedures are imposed (science for policy), as well as determining the practices that govern state-sponsored or state-managed research (policy for science). The famed policy memos would offer recommendations for what the laws, rules, and procedures should be.

Even before starting my fellowship, though, I wondered whether that conception was incomplete. The position descriptions I encountered during finalist week were incredibly wide-ranging; very few seemed to be directly about shaping laws or rules. I’ve since come to think that the STPF program may be presuming a different definition.

2. The apparent AAAS STPF conception: government activity

Of course, some STPF fellows do serve in the legislative branch or otherwise contribute to laws and regulations. But most serve in other roles with a huge range of topical foci, day-to-day tasks, and technical depth. At one extreme, some are waist-deep in data science in support of DHS (Department Of Homeland Security) or DOE (Department of Energy) programs. Others run research studies and manage grants at NIH (National Institutes of Health). Still others develop courses on STEM topics for diplomats or USAID (US Agency for International Development) staff, or do science writing for the NSF (National Science Foundation).

It’s such an expansive landscape that the only unifying element seems to be the federal government. Anywhere the government might want technical expertise as it performs its duties, a fellow might step in for their first taste of “science policy.”

To some extent, this is just an extension of the first notion: policy here is not just about setting the rules, but also about executing on them. But my experience at State reveals a third meaning that feels much more removed from the popular conception.

3. The State Department conception: official opinions

Even after sensing a potentially broader definition, I still assumed policy had to either consist of or drive some kind of action—the government either doing or telling others to do something concrete. That misconception didn't survive my first week.

I was told that a significant portion of my work would involve drafting and reviewing talking points about technology and human rights. Not only that, I learned that producing such talking points was a major function of a "policy office" at State. How could mere talking points possibly qualify as policy?

What I've come to understand, at least incompletely, is that one of the most significant things a government can do is opine. Even without any coercive force, when the government speaks people listen. Sometimes they follow recommendations directly, whether to maintain a good relationship with the government, to show they are responsible citizens, or simply because the government's advice is sound. Other times, domestic or foreign audiences ignore or can't act on a government position, but voicing the position still chips away at everyone's expectations and norms. This is particularly true in foreign policy, where talking with foreign counterparts and shaping their thinking is often the only deliverable. It's hard to quantify, but the effect can be real.

One example is a document produced by my office not long before I arrived: a suite of [human rights due diligence recommendations](#) for businesses that sell products or services with surveillance capabilities. This is completely non-binding guidance: it's just the State Department suggesting that certain practices are good ideas. But many businesses care about minimizing human rights violations, even if they can't devote the resources to working out the best practices themselves. These companies eagerly borrow practices from the official guidance. And by raising expectations, the Department has incrementally shifted international norms of what companies should do.

I have found that within State, staking out positions—or at least recommending positions for the administration to stake out—is precisely what policy offices do. (Funding or managing activities based on those stances often falls to programming or management offices.) Anecdotally, that seems to be true in other agencies as well. Even in legislative drafting, experts will draw a distinction between "the policy" and the language of the bill. Policy, including science policy, really can just be offering an opinion on what should be done or what's acceptable.

For me, this was a jarring realization. At the same time, it was an empowering one—not least when a colleague told me in the context of an international negotiation, "This may be hard to swallow, but until someone tells you no, your opinion is the position of the United States of America." Between all three definitions, the ways to contribute to science policy are as varied as the rules you can conceive of, the work the government does, and even the opinions you might have.

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