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The Congressional War on the Social Sciences

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In March of this year, Congress voted to eliminate National Science Foundation funds for political science research, except for grants certified by the NSF director as “promoting national security or the economic interests of the United States.” Additional legislation (in draft), the High Quality Research Act, is designed to guard against “questionable projects” at NSF; it would subject NSF grants to an unprecedented level of congressional scrutiny.

Meanwhile, a bill is introduced to eliminate health economics research at the National Institutes of Health; in response, the NIH announces that it will conduct a “productivity review” of its social science program.

Federal statistics are not immune to new forms of congressional oversight. Last year, the House passed an amendment abolishing the American Community Survey—the nation’s source of statistics on dozens of social and economic conditions. The senate ignored the amendment, but it was revived and enlarged in April of this year, in a bill abolishing agricultural statistics and all Census Bureau surveys—the economic census, census of governments, etc. In this legislation the bureau exists only to conduct the decennial headcount that apportions congressional seats (and is used to redraw congressional and state legislative districts).

Although the social sciences and social statistics are the primary target, there are rumblings that federally supported science more generally is in need of greater accountability. In an April oversight hearing, the president’s science adviser, John Holdren, was asked why the two criteria to be applied to political science grants—national security and economic interests—were not “a good and proper filter” to apply to *all* sciences funded through NSF grants.

If the questions asked seriously misunderstand the basic workings of science, then the new science policy being shaped will derail a government-science partnership that has worked for more than a half-century.

What’s going on?

The nation's basic science policy, more or less secure for six decades, is being upended, a result of two converging congressional concerns. One is specific to the social sciences—are they real sciences? The second, and much broader, is congressional concern with impact, productivity, pay-off, performance—what justifies science's claim on public funds? Both concerns were on the table in 1945 when Vannevar Bush's *Science: The Endless Frontier* successfully argued the need for a National Science Foundation to channel government funds to university-based research. NSF did not initially include social sciences, but their importance quickly became too obvious to justify the omission. Social sciences were soon included under the NSF umbrella, subsequently at NIH, and steadily across various federal agencies, particularly extensive in public health, in intelligence and security, and in economic policymaking (note the “except for” clause in the 2013 legislation, on which more below, that otherwise eliminated political science funding at NSF).

The second concern—responsible use of public funds—was, in 1945, easily resolved. Fresh from its huge successes in World War II, American science received favored treatment by the government. Post-war science policy held that science would promote the national interest most productively if free of government control, though, of course, not free of public obligation. Science, solely concerned with truth seeking, did not need to be closely monitored, regulated, or directed. Its internal policing mechanisms, especially peer review, guarantees scientific integrity and its proven patriotic dedication to national well-being guarantees productivity.

By 1965, the late Don Price would write that this tacit agreement was short lived. The generalized trust in science was gradually replaced by incentives, oversight, and related institutional arrangements by which the government assures itself that publicly funded science meets the criteria of integrity and productivity. Principal-agent theory helps us see what the issues are. The principal—the government—lacks the expertise to produce knowledge it needs. It delegates to an agent—America's research universities—the task of producing scientific knowledge. If the government trusts the integrity and productivity of its agent, nothing else is called for. The problem of science policy is solved.

If, however, the government worries that not all of the science benefiting from public funds is free of fraud or rent seeking, and worries even more that scientists are more focused on peer approval than in producing what society needs, it will monitor and create incentives to influence behavior in desired directions.

At its core national science policy reconciles, as best it can, the accountability of Congress for how public funds are spent with sufficient scientific autonomy to allow for serendipity, unexpected discovery, and unplanned outcomes. Congress, with some bumps along the way, has managed to reconcile accountability and autonomy since Price's observation. The nation has benefited, enormously.

Today, strong voices in Congress are challenging basic features of a science policy that has served the nation well. The attack on social science and social statistics is one indication. More generally, however, there is a demand for metrics to assess the productivity or "broader impacts" of government's investment in science, metrics that Congress could use to more closely manage government science programs. Productivity is a complicated concept. Certainly it involves cost-effective performance, but in government circles, productive knowledge is what meets the exacting criteria of "usefulness" to its public sponsors—that is, eventually, to the American taxpayer. It is the job of Congress to explain that tax dollars are being productively spent.

Asking the NSF, NIH, or the Census Bureau to provide persuasive rationales for their use of public funds is not itself a signal that the nation's science policy is going off-track. But if the questions asked seriously misunderstand the basic workings of science, which is my claim, then the new science policy being shaped will derail a government-science partnership that has worked for more than a half-century.

How do I get from a congressional vote reducing the political science budget in the NSF to the claim that science policy dating to the 1950s is going off-track? The "except for" clause included by Senator Tom Coburn (R-Oklahoma) in legislation targeted to political science points to an answer. Congress authorized NSF funding of political science projects only if they are certified as promoting America's national security or its economic interests. Congressman Bill Posey (R-Florida) suggests that these criteria are a proper filter for all of NSF science.

If Coburn's "except for" clause were extended, as Posey suggests, to all scientific disciplines, the consequence is a science policy at risk of biasing research to near-term benefits; that weakens theory construction across the sciences; and which inserts congressional micromanagement into NSF's peer review practices. In a recent *Science* magazine editorial I commented on these three risks. Space constraints there did not allow a more general treatment of science policy—which is what this essay offers, drawing on examples presented in the editorial.

NEAR-TERM BENEFITS

The phrase “basic vs. applied” science is a misleading guide to the way science is actually used. If we want a dichotomy, a much superior one distinguishes between scientific knowledge that is being used and scientific knowledge that will be used when conditions change. In the 1930s, the expertise of political scientists, historians, and economists working in China and Japan was of little use to the U.S. government. But early in World War II, social science knowledge about the Far East was in great demand. The Office of Strategic Services (OSS), America’s first intelligence agency, heavily recruited regional experts just as the CIA—the successor to the OSS—does today. Perhaps Coburn’s “except for” clause was in recognition that today there are hundreds of political scientists working in or consulting for the nation’s defense and security agencies.

With few exceptions, Congress has always understood the importance of both present- and future-oriented research. A well-known exception was the 1969 Mansfield amendment, which restricted the Department of Defense to research narrowly targeted to specific military missions. Had this restriction not been lifted, DOD-sponsored research in the 1980s that led to the Internet in the 1990s would have gone unfunded. Today, we cannot know how and when the science of the Higgs boson sub-atomic particle will prove useful. But conditions will change; the knowledge will be used.

Social science examples are plentiful. The theory of demographic transition was formulated before it proved central to the government’s huge investment in family planning to reduce population growth across the developing countries; early childhood learning was a theoretical breakthrough that subsequently shaped policy toward maternal health and pre-school programs; a quarter-century ago few could have predicted today’s growing influence of behavioral economics in microeconomic policies.

BUILDING SCIENTIFIC THEORY

The Coburn criteria undermine how science constructs its theories, without which there is no scientific explanation of anything. Coburn and Posey acknowledge that political science contributes to an understanding of national security and the economy; what they miss is why that is so. Research on nuclear proliferation or economic stagnation would produce, at best, descriptive and shallow explanations if pursued without attention to broad theory about how governments work, which in turn involves studying topics seemingly unrelated to security or the economy: bureaucratic inefficiencies, moral hazards, unintended consequences, organizational decision-making, coalition-building, and much more.

Science is not a series of discrete, unrelated projects. It is an interconnected enterprise, which is why research on schoolyard bullies can unexpectedly explain suicide bombers, or why studying government decision-making under uncertainty—for which a political scientist, Herbert Simon, received a Nobel Prize—is applicable to explanations of failed states, which in turn are home to terrorist cells.

A science policy that poses narrow questions gets narrow answers. This, I fear, is the likely consequence if Congress embraces the Coburn criteria, especially if it inserts itself into the actual choice of research projects.

CONGRESSIONAL MICROMANAGEMENT

Who decides whether a given NSF grant will promote national security or economic interest? Coburn assigns this responsibility to the NSF director, who is instructed to certify to congress that each NSF-funded political science project meets the criteria. If restricted to political science, its damage is real but limited. But if, as Posey suggests, it is broadened to all disciplines, perhaps migrating to NIH and other government science funding, it is a disaster in the making.

Congressional intimidation lurks in legislation that instructs the NSF director to certify individual grants. Trying to second-guess perceived congressional priorities can easily edge aside the search for excellence through peer review. The risk of marginalizing peer review is especially worrisome given the already insecure status of politically contested science, such as evolution, stem cells, climate change, and alternative energies. Members of Congress who believe that the executive branch should not try to pick winners and losers in the market economy should certainly realize that the legislative branch is poorly equipped to pick winners and losers in science.

GETTING BACK ON TRACK

Formulating a national science policy is a congressional responsibility. But when that policy misjudges basic features of how science works, it is the task of the nation's science leaders to point it out—as have the president's science adviser, the National Science Board, members of the National Academies of Science, and hundreds of others. It is easy to be tempted by the promise of metrics claiming that this-rather-than-that scientific investment will better promote national security or economic well-being. Only with hindsight will the nation realize how false this promise was.

