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Is Any Science Safe?

THIS MONTH, THE U.S. NATIONAL SCIENCE FOUNDATION (NSF) WILL APPLY TWO CRITERIA IN ITS review of research proposals: intellectual merit and impact. One discipline, however, will have to meet a further test. In March, at the urging of U.S. Senator Tom Coburn (R-OK), Congress halted funding for political science—“except for” research that the agency’s director certifies as “promoting national security or the economic interests of the United States.” This extra test might not stop with political science. Representative Bill Posey (R-FL), in an NSF oversight hearing on 17 April, asked John Holdren, President Obama’s science adviser, why Coburn’s two criteria were not “a good and proper filter” to apply to all NSF grants, eliciting this response: “. . . it’s a dangerous thing for Congress, or anybody else, to be trying to specify in detail what types of fundamental research NSF should be funding.”* The United States has benefitted enormously from a government/science partnership carefully designed by Congress over many decades. There have been bumps along the way; it is challenging to reconcile scientific autonomy with Congress’s responsibility for public funds. Coburn’s “except for” clause is potentially a very large bump.

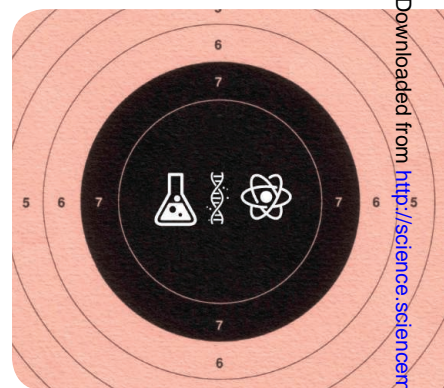
This congressional attempt to micromanage NSF grants carries three risks. First, it favors research that promises near-term benefits, overlooking the fact that there is knowledge useful under today’s conditions and knowledge that becomes useful when conditions change. In the 1930s, political scientists, historians, and economists working in China and Japan were of little use to the U.S. government. But early in World War II, their expertise on the Far East was suddenly in great demand at the Office of Strategic Services, America’s first intelligence agency. With few exceptions, Congress has supported both present- and future-oriented research. One well-known exception was the 1970 Mansfield amendment, which restricted the Department of Defense (DOD) to research narrowly targeted to specific military missions. Had this restriction not been lifted, DOD research in the 1980s that led to the Internet would have gone unfunded. Today, we cannot know how and when the science of the Higgs boson subatomic particle will prove useful. But conditions will change; the knowledge will be used.

The second risk is that Coburn’s criteria weaken the way science builds theories, without which there is no scientific explanation of anything. Coburn recognizes that political science contributes to an understanding of national security and the economy. He misses that this understanding is embedded in broad theories 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 an interconnected enterprise. Research on schoolyard bullies can unexpectedly lead to theory that explains suicide bombers. Two U.S. political scientists, Herbert Simon and Elinor Ostrom, received Nobel Prizes for theoretical work on government decision-making under uncertainty. Their theories are broadly applicable, including in explanations of failed states—often home to terrorist cells.

The third risk is to peer review. Congressional intimidation lurks in legislation that instructs the NSF director to certify individual grants. This invites responsiveness to perceived congressional priorities rather than reliance on 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 should not try to pick winners and losers in science. Every scientific discipline has a stake in undoing the damage inflicted on political science, and, in fact, to the national interest, by the Coburn criteria. Every scientist should vigorously contest any effort to apply those criteria more broadly.

— Kenneth Prewitt
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*]. Mervis, <http://news.sciencemag.org/scienceinsider/2013/04/nsf-peer-review-under-scrutiny-b.html> (2013).



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