

## **Congress Needs Nonpartisan Advice on Science and Technology**

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Complex technical questions often confront Congress. Is a ballistic missile defense system practical? Is it technically possible to support traditional notions of intellectual property in the age of the Internet? Do current telephone regulations prevent carriers from offering inexpensive broadband services? Are there risks when farmers protect their crops with genetically modified organisms?

Congress's place is to balance conflicting objectives and debate priorities, like economic growth versus environmental protection. But for some issues, intelligent debate is impossible without technical understanding and—today—Congress has no trustworthy source for technical information.. Congress could soon remedy this dangerous situation, but vocal support from the technical community may be needed to make this happen.

Not that Congress has no information. Lobbyists for one side or another are always at hand with self-serving versions of the facts. So much raw data pours into Congress, that its inhabitants are unaccustomed to seeking information on their own. As described in a previous *Spectrum* article<sup>2</sup>, the way policy-makers in Congress gather and process information is fundamentally different from the methods of technologists. Congress uses an adversarial system, where each side is expected to come forward and make its own case - then policy-makers judge the conflicting input, and make compromises.

This approach works well in many cases, but it sometimes breaks down. In highly technical matters, when two parties disagree, there may be no way for policy-makers to judge. When two scientists argue about global climate change, it is difficult for the nonscientists in Congress to ask a relevant question, much less to determine who has the stronger case. Problems with the adversarial approach are even greater when one side lacks the means or the motivation to court members of Congress. For example, when policy-makers consider prohibiting technology that could be used by both terrorists and law-abiding citizens, national security experts will discuss the dangers. But who will protect the start-up companies that might have been formed to exploit this technology? Who will protect the consumers who will lose a product they never knew was possible? To address these issues, Congress needs its own trusted nonpartisan in-house experts.

There is a movement under way to create an organization of experts to serve Congress. As part of this movement, Carnegie Mellon University organized a workshop on Capital Hill in Washington DC this past June. Its 18 co-conveners included the IEEE, and other large professional societies, top universities, and prestigious think tanks.

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<sup>2</sup> Jon M. Peha, "Bridging the Divide Between Technologists and Policy-makers," *IEEE Spectrum*, Vol. 38, No. 3, March 2001, pp. 15–17.

Workshop attendees listened to the words of leading members of Congress, including Sherwood Boehlert (R-N.Y.), Vernon Ehlers (R-Mich.), Rush Holt (D-N.J.), Amo Houghton (R-N.Y.), and Jay Rockefeller (D-W.Va.). Each described how important an organization that advised Congress on science and technology could be. As one speaker pointed out while looking at that day's agenda in the House, many of the most important policy issues have science or technology at their core, including health care, energy, national defense, agriculture, and environment, just to name a few.

Still, despite the tremendous importance of good technical advice, it may not be possible for Congress to create such an organization. The matter is complicated by the fact that a previous organization served this purpose for 21 years. The Office of Technology Assessment (OTA) was disbanded in 1995, and the lessons of that event for today are highly dependent on the reasons why it happened. Yet there is still disagreement about what those reasons were.

One controversial possibility is that OTA failed to provide Congress with enough valuable and timely information. While OTA's supporters point to rigorous and respected reports that the agency produced, many of which are still routinely cited, detractors complain that information arrived too late to be useful, or worse, some conservatives have claimed that the organization had a bias. Indeed, it was clear in the recent workshop that a new organization should do some things differently from OTA, one being a greater capability to answer certain requests for information in days or weeks, rather than months or years. In the workshop, five competing models for a new agency were proposed, and reasonable debate will continue as to which model would be most effective. Of course, even if OTA was disbanded for being less effective than it could have been, this only strengthens an argument to create a new and stronger organization.

I will leave the difficult question of bias for others to argue, but even if bias did exist at OTA, it was presumably only able to persist because Congress (especially the House) had been controlled by one party for so long. Today, both House and Senate teeter on the edge, and no one knows who will be in control in 2003. There may never be a better time to create an unbiased congressional organization, because both parties will be strongly motivated to build effective safeguards against bias into the system.

Another explanation for OTA's demise in 1995 is *political symbolism*. Many members of Congress won the 1994 election by promising to reduce government spending, and government waste. They wanted to demonstrate to voters, and to the bureaucracies whose budgets they would be scrutinizing, that these were not mere words. OTA used a minuscule fraction of the federal budget, but eliminating OTA looked like an easy way for them to send this important message quickly.

Congressman Rush Holt has introduced legislation in the House that would revive the OTA. Its future is still uncertain. Meanwhile, the Senate has passed legislation introduced by Senator Jeff Bingaman (D-NM) that would create a pilot science and

technology organization under the General Accounting Office. So far nothing comparable has passed the House.

With OTA's demise in 1995 as historical backdrop, members of Congress may be inclined to think about the symbolism of their actions. Will opposing the creation of a new organization to advise Congress demonstrate frugality with taxpayers' hard-earned money, or will it demonstrate determination to remain ignorant on technical matters, and contentment with dependence on high-priced partisan lobbyists for their technical information? Since this is a question of public perception, the technical community can play a pivotal role in how the matter is viewed. Post cards and phone calls from individual engineers to members of Congress can make a difference. So can well-publicized position statements from technical organizations

Technical innovation constantly creates the need for new laws and regulations, while making the old ones irrelevant or counterproductive. Congress will forever face these issues. Good advice costs nothing compared to the cost of ignorance.