

September 20, 2008

To: Dr. David Ellwood – Dean, Kennedy School of Government
Dr. James McCarthy – President, AAAS

From: Lloyd Etheredge – Policy Sciences Center ¹

Re: A New System for Policy Analysis/National Scientific Advice

“The questions today are not so much how the Internet will change political life, but rather what might motivate more people to see themselves as citizens of a democracy . . . ”
- Peter Dahlgren²

Although we do not yet have transparency or full disclosure concerning the Gathering Storm breakdowns of the National Academy/NRC system, it is possible to see the outline for a better system of national scientific advice that can be recommended to the new Administration. As a draft, in the spirit of furthering discussions, may I suggest three fundamental principles to upgrade the system designed for the world of 1863?

1.) Evolve from the current national monopoly. Replace the \$200-\$250 million/year monopoly business (300+ volumes of studies written by the Washington-oriented National Research Council bureaucracy with *in absentia* supervision) by a national network of NSF Evidence-Based Policy Centers run primarily by research universities. The Centers will be created by the National Science Foundation with five-year competitive and renewable core grants.³

2.) A redesigned agenda-setting system: a.) to provide partnerships for scientific advice in all areas of public policy; b.) to organize national constituencies for scientific advice; and c.) to support a cultural change toward evidence-based thinking. Specifically, the Centers will receive

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questions related to public policy from anyone with a plan to use the answers: This includes individual citizens (and scientists in their capacities as citizens); Governors and Mayors; civic and advocacy groups; school boards and other state and local officials; and, also federal agencies and Departments in Washington and NGOs.⁴

Each Center (i.e., which also may specialize and solicit questions) will have an Advisory Committee. The Advisory Committees will review the questions, rank them by five criteria (and publish the questions and ranking on the Internet), and approve plans (developed by the Center) to begin answering them. The Center's work may include literature reviews, organizing recommendations of experts, and/or original research. NSF will increase a Center's annual budget, above its core grant, in response to the demand for scientific advice that emerges; NSF also may seek funds from other federal agencies.⁵

The five criteria will be:

- The commonality of the question;
- The potential benefits of knowing the answer;
- The existence of unexplained variations, new ideas and technologies, or theoretical or political disputes suggesting that research can be productive;
- The availability of existing research and/or expertise that can be drawn upon;
- The cost of answering the question that makes it prohibitive for local or state government, or civic organizations or NGOs, to undertake the research themselves.

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3.) Combine immediate answers and long-term learning. Today, the current NRC system provides one-shot literature reviews – and often (especially in the social sciences) the literature reviews, while trying to be helpful, implicitly show that the government has not invested in enough research to answer the important questions that it is asking. By contrast, the NSF Evidence-Based Policy Centers will have the option to play a more independent and constructive role – i.e., develop roadmaps and plans for rapid-learning/research systems to improve policy analysis and their answers. In the case of science education (for example) Centers could build collaborative systems for research with teachers and school districts.⁶

The new high-visibility system can assure traction, knowledge transfer, and accountability: Research plans and results will be peer reviewed and published on the Web – and, thus, can be the basis for follow-on questions and research suggestions from the public. Annually, each Center also will provide Congress and NSF with a.) the prioritized list of questions from its national constituencies, b.) measures of progress (e.g., the number of new questions received; the number of questions approved for answering; the number of questions undergoing literature reviews; the number of questions with research designs pending NSF/Congressional funding; the number of questions answered during the previous year, etc.) and c.) estimated budgets and research plans: Congress will have a clear understanding of the rate of progress that is linked to new NSF funding.

Comment

We are a nation with many well-educated citizens who understand science; and with managers, executives, and many other people who are accustomed to ask questions and make

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evidence-based decisions. Yet even minds that have mastered calculus have almost nothing to work with in thinking scientifically about public policy – and there are large data losses and current gaps even in our ability to identify best practices.⁷ Allowing policy-relevant questions from the public (as well as government agencies at all levels) to shape and drive scientific progress will improve the current national system of scientific advice. (In the current condition of mindlessness and the loud, recycling of simple ideological ideas on policy-argument television, this new system will be a breath of fresh air and may produce a Renaissance.) Locating most of these Centers at academic institutions will provide greater political and cultural independence from Washington and a better scientific setting to design national rapid learning systems. And eliminate the risk that top-down manipulation of the current monopoly system can damage the country.

The federal government already has experience and success with an analog to these NSF Evidence-Based Policy Centers in applied medical research. A system of twelve Evidence-Based Practice Centers, funded by the Agency for Healthcare Research and Quality. (www.ahrq.gov) in the US and Canada has operated with strong bipartisan support since 1997. They identify issues of very high public priority and provide a steady stream of reports to inform patient and physician choices and the (empirically-based) effectiveness and quality of healthcare for the Medicare and Medicaid populations.

The Fate of the Current System

Evolution to the new system – a three-year process - should begin immediately and include expansion and upgrade of NSF and the National Science Board.

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About the current system: My strong impression is that the Institute of Medicine continues to do an outstanding job, alongside our other federal agencies engaged in biomedical/life science responsibilities (e.g., NIH, FDA). However, we have seen two alarming and important cases of *hubris* and abuse of power and trust by the National Academy of Sciences/National Academy of Engineering/National Research Council system: The Luce and Augustine scandals show well-connected insiders – and elected leaders - abusing their power to restructure national funding priorities (and secure competitive advantages) without a persuasive scientific case, public hearings or public comment. And, unexpectedly, excluding and turning against their own elected members in the biomedical/life/social sciences.^{8 9}

-At this point – against the background of uncorrected breakdowns of integrity - the scientific community should apply the null hypothesis. It is wholly the responsibility of the National Academy of Sciences/National Academy of Engineering/National Research Council to convince the new Administration, a new Congress, the media, and the scientific community (e.g., AAAS and disciplinary societies) that they have reformed and can be trusted to perform any residual role they propose for themselves.¹⁰

However, the presumption is that these three organizations will be phased-out in three years – perhaps with the current building on the Mall in Washington becoming a long-needed National Science Museum (to be operated by Smithsonian). In reality, I think that most people will agree that it is time for a change: We need – and deserve – a better future than we have had in recent years.¹¹

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Dr. Peter Katzenstein – President, APSA; Dr. Henry Brady – President-elect, APSA;
Dr. Theda Skocpol – Former President, APSA

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² Peter Dahlgren, "The Public Sphere and the Net: Structure, Space, and Communication," in *Mediated Politics: Communication in the Future of Democracy*, ed. W. Lance Bennett and Robert M. Entman, *Communication, Society and Politics* (New York: Cambridge University Press, 2001), 53.

³ For-profit companies (e.g. RAND), NGOs (e.g., the National Governors Association), and think tanks (e.g., Brookings, the Urban Institute) also will be eligible to apply.

Following the Federalist Papers: It probably will be wise to create more than one Center with responsibility for any area – i.e., to allow overlap and competition. And also to think further (beyond this paper) about the political and scientific design of an upgraded National Science Board/NSF.

⁴ Requiring that question-askers have plans to use the answers will help to assure Congress that this is a system that truly responds to national and civic needs. However, there might be an exception to this rule for high school science and civics classes, who could be invited by Centers to submit questions.

⁵ Government agencies whose questions receive lower priority will have the option to contract for their research independently or elsewhere.

⁶ An NSF Center could have funds to pay leading academic research centers to record, digitize, and upload research colloquia about science education research from many sites to the NSF Center's common Website – creating a virtual C-SPAN for science education research.

⁷ For an early discussion: Carla O'Dell, C. Jackson Grayson Jr., and Nilly Essaides, *If Only We Knew What We Know: The Transfer of Internal Knowledge and Best Practice* (New York: Free Press, 1998).

⁸ For any institution – especially a government institution that relies upon the perception of integrity – the problems are severe. The current, and previous two, Presidents of the National Academy of Sciences, and now the President of the National Academy of Engineering, have been complicit (now, active designers) in this abuse of power.

One of the chilling dimensions of the problem for a democratic society is that the monopoly of national status and power - acquired by the National Academies system through its government charter and Team Player relationships – inhibits coverage by Science, public criticism and debate, and the institutional self-correction of science. [For example, the unwarranted and deeply controversial Gathering Storm (2007) initiative to restrain life/biomedical/ social science funding for seven years in favor of the doubling of engineering and other fields is not yet (September 2008) candidly reported or discussed in Science.]

⁹ In both cases I believe the courts eventually will decide that their claims to provide unbiased and impartial scientific advice, in fact and in appearance, were fraudulent; that insiders conspired corruptly to secure competitive advantages and against the due process rights of other scientists; that trusted people were negligent; and that the wrong-doers and beneficiaries also misused their offices and conspired to suppress self-correction processes and effect a coverup.

¹⁰ Such an assessment will depend, in part, on the transparency and integrity with which these organizations investigate their breakdowns, hold past and current leaders fully accountable, repair the damage that they have done, and present credible plans for reforming themselves.

At this point, it seems unlikely that most members of the National Academy of Sciences/ National Academy of Engineering/National Research Council will want to spend the time to solve these internal problems. (Self-correction already was attempted (and failed) via the earlier Carnegie Commission engagement with the Luce Report.) And since the leadership of these organizations traditionally will not recuse itself from investigations of its own wrong-doing, and with coverage by Science unavailable, their internal politics may not allow a credible process of reform.

¹¹ The new system will have full access to the scientific expertise of the old system: The Centers are likely to appoint Advisory Boards that include many individual members of the NAS/NAE. If it is desirable, the current prestige of National Academy membership could be retained by migrating the individual sections of the NAS/NAE into prestigious National Science

Board Advisory Councils with oversight/planning responsibilities for current NSF programs in their fields of expertise and supervision of the new networks of Evidence-Based Policy Centers.

In reality, the time and attention devoted to scientific advice and research planning are likely to increase under the new system: under the old system, the nation's research scientists donate their time without compensation to operate a \$200-\$250 million/year report-writing company in Washington. Under the new system, leading scientists with national reputations and universities can develop their own Centers in their areas of special research/policy expertise. They can provide institutional leadership and do their work with released time and research assistance. And be supported to develop research projects for rapid learning in areas that they care about.