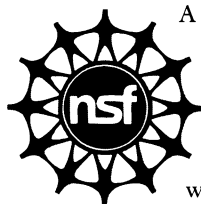


NSF, NIH Under the Microscope

Both agencies are under harsh scrutiny from usually friendly quarters; the issues are different, but the outcomes could affect each agency's future

NSF: Congress Probes Mismanagement Charges



A research chief could hardly ask for a happier prospect than the one that faces Walter Massey, director of the National Science Foundation (NSF), as he approaches the end of his first year in office this March. While agencies, corporations, and citizens tighten their belts, Massey won't need to lower the ax on any NSF programs—thanks to a 13% budget increase in 1992.

Instead, NSF will glide ahead on a 5-year budget surge that began in the Reagan years. And the trend may continue, for the White House is seeking an even larger increase for NSF in 1993.

So why, with all this going for him, does Massey seem on edge? Why does he grumble—as he did to a group of reporters on 16 January—that congressional probes are distracting the agency and getting “broader and broader,” without any clear purpose?

Like university administrators and Frank Press over at the National Academy of Sciences (NAS), Massey has been watching and waiting as a congressional probe takes its course in this Era of Accountability. The pressure, coming from the staff of the House science subcommittee on investigations, chaired by Representative Howard Wolpe (D-MI), began in mid-1991 and has grown steadily. Today, a squad of auditors from the congressional General Accounting Office (GAO) has encamped at the agency and is combing through its files. The investigations were sparked by allegations of mismanagement—including conflict of interest and political massaging of study results—in an NSF division that prepares statistical analyses of scientific resources such as scientific employment and funding for R&D. But today the GAO audit has no clear bounds.

This unwelcome attention is not as inexplicable as it may seem to many scientists—Massey included—who regard NSF as a well-run agency. It is part of the price NSF is paying for its financial good fortune. With a budget approaching \$3 billion and a fresh commitment from the Administration to keep it growing when other agencies are making sacrifices, NSF is becoming more visible on Capitol Hill. The danger is that, although Congress is currently focusing on the administration of a relatively small part of NSF's operations, rather than on its core function of supporting research, unresolved questions could damage NSF's relationships with its congressional overseers. Or to put it another way: Today the GAO



STEVE TURNER

“Friendly” overseer.
Rep. Howard Wolpe.

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NIH: Out of Chaos, a Master Plan?

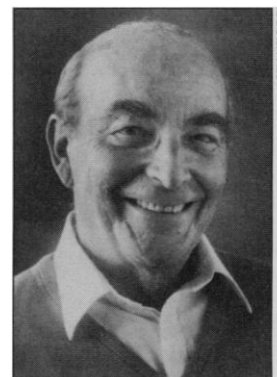


San Antonio—To Bernadine Healy and her staff, it was to be a historic occasion: the first-ever attempt by leaders of the National Institutes of Health to engage the scientific community in a protracted public discussion of the future of biomedical research in the United States. The dialogue, begun at a symposium here in Texas—and to be picked up over the next few months at four other sites around the nation—was aimed at eliciting the community's blessing of one of the NIH director's most cherished goals: a strategic plan for NIH. “Our central premise,” Healy wrote in a preamble to the gathering, “is that we have responsibility as a community to participate in shaping the future of NIH, rather than allowing external forces and events to dictate the NIH of tomorrow.” Ringing words, but this symposium may have proved a valuable reminder for Healy and her team: Biomedical scientists, by and large, don't like the idea of being micromanaged.

Not that all the feedback was negative. By the end of “Today's Opportunities, Tomorrow's Health,” the official title of the ambitious 2-day convocation dreamed up by San Antonio's Southwest Foundation for Biomedical Research, three score eminent scientists produced a list of diplomatically phrased recommendations (see box) for NIH. The central message was that if management must be done, let it be guided by the extramural community. A crucial corollary to that is that any effort by government to establish top-down prioritization of biomedical research—even when social conditions may warrant the husbanding of resources—will be looked on with the utmost suspicion.

Which is one reason why the requested input of NIH's invited guests came so hard. The men and women assembled here desperately wanted to help NIH out—after all, most owed their careers to NIH funding. Moreover, they wanted to help Healy in her battles with Congress and with her superiors in the Department of Health and Human Services (HHS). But before they could bring themselves to propound a series of constructive proposals for the Healy team, the scientists had to tiptoe across a bed of coals that had been fanned days before the meeting convened.

The first public puffs of smoke emerged only 13 days before the convocation when, as Southwest Foundation scientific director and meeting cochairman Henry McGill describes it, NIH associate director for science policy and legislation Jay Moskowitz “called and said,



STANFORD

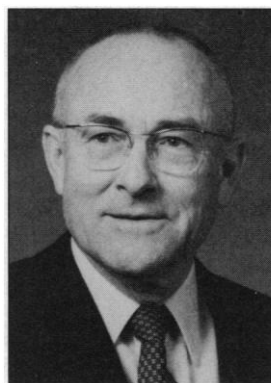
Staking high ground.
Arthur Kornberg.

'We've got to change the titles.'" Moskowitz is an ascending star in the NIH management structure, and, according to McGill, he wanted the names of carefully thought out, concurrent workshops changed even at this late date. Moreover, McGill reports that "the [background] documents were delayed." This latter problem won't surprise *Science* readers: As we reported 2 weeks ago (31 January, p. 529), a final draft of the strategic plan meant for discussion by the scientists coming to San Antonio was relegated to "preliminary" status by key aides to Healy's bosses, Health and Human Services Assistant Secretary James O. Mason and Secretary Louis Sullivan. "It became hard to get people prepared" to debate the issues that would be coming up in the workshops, McGill told *Science*. Indeed, as the meeting got under way, no one—including the assigned chairmen of the individual panels—was sure of what precisely NIH wanted them to react to, not to mention what role NIH expected them to play: If NIH wanted unfettered input, they wondered, why the last-minute attempt to massage titles of workshops and put spin control on the materials to be discussed?

To Moskowitz, these last-minute perturbations were the result of a totally unremarkable meeting between NIH's top brass and HHS staff to discuss ways of presenting the draft of the strategic plan in the upcoming public meetings. Southwest Foundation staff members weren't buying the explanation. They saw the late-hour spasm as in-

dicative of something traumatic that had transpired back in Bethesda. After a day and a half of repeated and emotional denials by Healy, Mason, and Sullivan that NIH and Sullivan's staff were at odds over the draft plan, the Southwest Foundation's McGill put it delicately: "My feeling is that they were having difficulties."

For all his denials, NIH's Moskowitz conceded to *Science* that the last-minute NIH requests—compounded by yet another late-hour demand that five designated NIH staffers be named cochairpersons of the five panels—enforced a "myth" in the minds of many of the scientist-participants that NIH was "trying to control the meeting." And even if the run-up to the meeting had gone smoothly, friction could hardly have been avoided, given some of the elements in the 14-page "Framework for Discussion" and hundreds of pages of background papers that the Healy team supplied to participants in lieu of what had been called a draft plan. Consider the Healy team's proposed Goal 3 of their four cornerstones to NIH's strategic plan: "To expand the knowledge base in biomedical and behavioral research in order to enhance the Nation's *economic competitiveness* and ensure a continued *high return* on the public investment in research [emphasis added]."



Meeting cochairman.
Henry McGill.

Anathema! Even before the individual panel deliberations had begun, Stanford University Nobel laureate Arthur Kornberg, a cochairman of the symposium, skewered this kind of notion in his plenary address. Said Kornberg: "Investigations that had no practical objective have yielded most of the major discoveries of medicine: x-rays and penicillin, the polio vaccine and monoclonal antibodies, genetic engineering and recombinant DNA." Mincing no

words, Kornberg then staked out the high ground: "The process of invention," he said, "conflicts with prudent business strategy."

In stark contrast stood Healy's address to the convocation. "1992 is not 1952," she warned, launching into a pointed comparison of the era in which a recognizable NIH first emerged with the hard realities of today. In the 1950s, she pointed out, NIH's budget was 180 times smaller than it is today and "public trust was taken for granted." Indeed, she recalled, "Congress loved NIH...as a father would his child." But today "we are a \$9 billion public corporation," whose budget exceeds that of 100 foreign countries, she noted, and "we the scientists must continually earn" congressional trust.

Now, this is not just motherhood to Healy. She senses a sort of psychological denial among the well-funded. Pointing out that

The Community's Message to NIH

The following list of recommendations—edited down and in some cases slightly rephrased—came from a series of 15-minute summaries from the chairmen of five panels at the San Antonio meeting. An official version is being compiled by the Southwest Foundation for Biomedical Research.



- A task force should be created of intramural and extramural researchers to develop a strategic plan for NIH.
- This plan should take the lead in getting assistance to research universities for their urgent infrastructure needs.
- Prioritizing of research funding in tight times should be done from the bottom up as much as, or more than, from the top down.
- Basic research should be supported as the wellspring and generator of new technologies and not the other way around. Further, the support of basic research should not be tied to national macroeconomic policy.
- The most rigorous adherence to peer review should be supported even as opportunities for the reform of the peer-review process are studied.
- Councils should be encouraged to spend more time on the grand strategic issues before NIH.

- Study sections should be made more flexible so they can better deal with rapid change in science.
- The effectiveness of targeting research areas as being practiced in various NIH institutes should be assessed.
- The Shannon Grants program in support of beginning investigators should be supported.
- NIH should empanel an extramural committee to study ethical issues and standards in biomedical research and how young scientists might be better trained in such issues and standards.
- Other groups with interests in biomedical research should be formally encouraged to develop their own inputs into NIH's strategic plan.
- The NIH director should consider the creation of an outside advisory group responsible to the director.
- A systematic study should be undertaken to determine the effects, if any, on openness of research of the increasing prevalence of commercial relationships.
- A study should be undertaken to determine the public perception of NIH, perhaps as a prelude to developing a campaign to improve the image of scientists in general and NIH in particular in the public eye.

■ E.R.

another major difference today is the “sluggish economy” that, she clearly believes, may prevent NIH’s budget from rising very much during the next several years, Healy told the assembled scientists: “I was somewhat surprised to hear the sentiments of a respected colleague who asked whether the needs of the country would be solved by better management or by creative pursuit of excellence, as though these were somehow mutually exclusive. His own answer was that management should be a secondary issue for NIH.” But in today’s environment, she hammered away, stewardship is vital. “Are we prepared to examine that reality?” Healy asked.

And so the dialogue between NIH staff and the extramural biomedical community was joined. The five panels broke out into separate rooms and earnestly began their deliberations. For hours, there was general confusion. Participants were perfectly capable of holding seemingly disparate objectives. Many opined that Healy had to be supported—said some, she was a breath of fresh air and, in any case, NIH surely needed shaking up. Nevertheless, many of these same scientists fretted that Healy’s team had intentionally sowed confusion so that they could push through their own agenda for change and declare afterward that the community had had its chance for input. Even some of the chairmen were grouching—said one, they’ve put people on my panel who don’t know anything about the topics they claim to want us to discuss.

By the second day, however, some of the darker suspicions were abating, and panel after panel was concluding that it would be the better part of valor to jump aboard the strategic planning train before it left the station absent the extramural community. Said University of Chicago neurobiologist Jay Goldberg: “It’s important to adopt a conciliatory tone and try to find a way to say, ‘How can we keep this process [of consultation] going?’” Concluded panel chairman (and Stanford geneticist) David Botstein: “Our panel believes that NIH could certainly benefit from strategic planning and wanted to applaud Dr. Healy.”

But once the compliments had been doled out, several of the panel chairmen either demanded that NIH formalize the involvement of the scientific community in its planning process or rejected key portions of both the background papers and the Healy team’s “Framework for Discussion.” For example, Botstein’s group unanimously authorized their chairman to report that, while

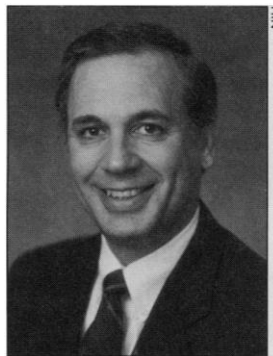
they did endorse strategic planning, they couldn’t endorse the material submitted by NIH. For one thing, there hadn’t been sufficient time to study the detailed papers, and, for another, there had clearly been too little input from extramural experts into the development of those papers. Especially upsetting to some of the assembled researchers was the paucity of discussion of family planning and pregnancy problems in an otherwise detailed consideration of the future of NIH’s reproductive science research—no surprise considering the Administration’s sensitivities in this regard. Yet another complaint was that there was precious little said about whole animal studies. And a third criticism was that NIH had failed to consider nutritional issues in its paper on childhood health and mortality.

A panel chaired by Marine Biological Laboratory director Harlyn Halvorson proposed what was to become the rallying cry of the assembled scientists: the director of NIH should create a task force of intramural and extramural scientists to develop—or, better, draft—the strategic plan. And even then, the draft should be widely circulated for comment before being blessed.

There were no signs that this advice would be taken—indeed, there couldn’t be since Healy had had to depart before the conclusions were reported. But NIH’s Moskowitz seemed sanguine about the direction the deliberations had taken. To *Science*, he compared Healy’s intent to an unusual practice at Boston’s Le-

gal Seafood restaurants. There, individual plates emerge from the kitchen as soon as they become ready rather than all-entries-at-a-time. Moskowitz predicts that pieces of the plan will accordingly emerge within the next few months, while others may require a year or more of debate—and even then many may continue to evolve. “This is not a 1-year process,” he said.

These words may reassure some of NIH’s nervous extramural clients. More reassuring still may be Moskowitz’s statement to *Science* that Healy is already seeking detailed input from outside scientists into parts of the plan. University of California, Berkeley, molecular biologist Gunther Stent, for example, is writing an analysis of scientific integrity issues. Reassuring or not, after hours of turmoil, there were signs that what had at first appeared destined to disaster was at last yielding something that might have been recognizable to the Irish poet William Butler Yeats. A “rough beast,” it seems, is “slouching toward Bethesda to be born.” ■ **ELLIS RUBINSTEIN**



Rising star at NIH.
Jay Moskowitz.



NSF (cont. from p. 788)

and a friendly chairman, tomorrow Big John Dingell and his swat team.

“I don’t want to destroy the agency,” says Wolpe, the friendly chairman. “I want to strengthen it.” For the past decade, he thinks, Congress has “sorely neglected” its oversight role in monitoring expenditures at the NSF and “a spectrum of other agencies,” including the Environmental Protection Agency and the National Aeronautics and Space Administration. Both of these agencies suffered a loss of prestige after technical and managerial mistakes were aired. “There’s a growing sense in Congress,” he says, that “we ought to make certain that all of these agencies are going to be subject to much greater scrutiny and accountability.” This is a big change for the House science committee, which during the reign of its former chairman, Representative Robert Roe (D-NJ), ran no investigations.

Clearly aware of the risks, Massey said recently that “we are playing a role where there is greater public scrutiny, visibility, and I think there’s going to be greater expectations of accountability.” Nevertheless, he is nervous. “These investigations came as a surprise,” he says. “I didn’t come expecting to deal with a [petty] level of management issues like this.” Massey also points out that NSF’s own inspector general has examined all of the allegations and made recommendations to tighten ship, which Massey is already implementing.

Wolpe, for his part, argues that Massey shouldn’t worry about defending past errors, if there were any, but should use the opportunity to clean house. “Most of the issues that we are looking at predated by a long period, Mr. Massey’s coming into his position,” says Wolpe. “So I would hope that he would see our efforts here as complementary to his own interests in strengthening the NSF.”

Wolpe may not be another Dingell, but he has yet to convince Massey’s staff that he’s a friend. The task of answering his questions has fallen to Massey’s top aide William Harris and congressional liaison officer Joel Widder. Harris recalls how he lined a wall of his office last fall with boxes of papers to be shipped to Congress. “Lots of staff time has been tied up” responding to congressional requests, says Widder, “and we’re still waiting to see what is to come” of the GAO fishing expedition.

To Wolpe, it’s no fishing expedition. He claims that his “priority concern” is with the quality of NSF statistical forecasts on the need for more scientists and engineers. Labor economists and NSF policy analysts

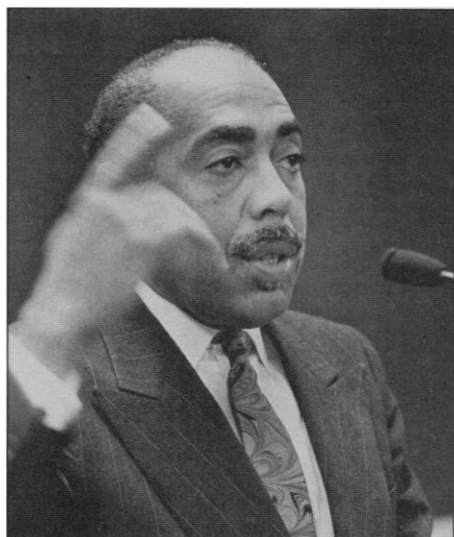
have clashed over a 1988 NSF paper that predicted a shortfall of technical manpower in the 21st century. The furor received a lot of attention and, as a result, NSF has backed away from describing the study as a prediction. The person most responsible for focusing attention on it, former NSF chief Erich Bloch, now claims the paper was merely a policy statement.

But Wolpe is troubled that NSF pointed "repeatedly" to this manpower study "in support of additional funding for science education," although he claims there are "some questions as to how it was compiled." He suggests that it might not have passed peer review.

To Erich Bloch, questions about the study's pedigree are "asinine." Instead of nit-picking, says Bloch, "Congress should ask itself, 'Why is it that the Japanese have twice as many engineering graduates as we do? Is it because they can't find any other jobs? Are they stupid?'" No, Bloch answers, the reason for the difference is that "we have been underestimating the complexities and the care that must be taken in research, design, and manufacturing. No wonder our products don't sell, our automobiles are inferior in quality...." Bloch uses a kind of supply-push reasoning. Graduate more engineers, he argues, create a better-educated workforce, and the workers will make better products.

While Wolpe claims to be interested in this debate, his staff seems to be zeroing in on charges of mismanagement in the division of Science Resources Studies (SRS). SRS's job is to publish a compendium of statistics on R&D funding, surveys of university science, and other studies. Located in offices several blocks away from NSF headquarters and taking less than 1% of the agency's budget, SRS had long been treated as a poor cousin.

According to an inspector general's report obtained by *Science*, Bloch was aware that trouble was brewing in SRS as early as August 1989. But Bloch, Inspector General Linda Sundro, and the acting NSF chief after Bloch's departure—deputy director Frederick Bernthal—decided on a gradual approach, according to Sundro's report. First they agreed to let a new SRS manager clean up the situation, and when that didn't work, they agreed to wait and let the next NSF director take care of the problem. Their hesitation may have done the agency no good. The SRS troubles broke into the open in 1991, when *Science & Government Report* and *The Scientist* published news that Massey had ordered a misconduct inquiry. The inspector general and Congress had received notes charging that NSF had ignored a conflict-of-interest case, that employees were "steering" contracts to favored bidders, and that the agency had terrorized its workforce by classi-



Surprised. Walter Massey says he didn't expect to be grilled on micromanagement.

fying many jobs as exempt from civil service protections. By late summer, Sundro was looking into the charges, and Wolpe's staffer, Edith Holleman, was asking for files.

The specific allegations, according to several staffers, were just the tip of a large iceberg of discontent. It rose to the surface after the SRS division chief retired and was replaced by Daniel Melnick, a political scientist from the Congressional Research Service (CRS). However, Melnick stayed only 12 months in the post, to be replaced in January 1991 by William Ellis, who also came from CRS. Ellis and the person who served as his deputy—Donna Fossum, a Ph.D. in sociology and a law school graduate—say that some senior staffers in SRS never accepted their authority. They have both left SRS now, and Ellis was replaced last July by Kenneth Brown, an economist formerly at the National Intelligence Council.

The low point came, according to Ellis and Fossum, when they learned that an employee supervising the division's biggest contractor—Westat, Inc.—was married to the woman at Westat who was a senior official on the NSF's survey of academic research facilities. After a flurry of memos, meetings, and policy reviews, the NSF's designated ethics officer, Lewis Grotke, recommended that the employee be removed from involvement in Westat contracts. Ellis circulated a memo to the staff to that effect, naming the individual and specifying the problem. Some people objected that this was unfair, particularly since the employee had sought a ruling on his case from NSF before he was married and believed that he was following all the rules. His supporters came to work one day wearing T-shirts proclaiming his cause. Bernthal then intervened, as indicated by memos in the inspector general's report, and the NSF general

counsel revoked Grotke's ruling on the case. The employee was allowed to continue working under a special waiver while arrangements were made to move him out of SRS. His transfer has since taken effect.

This reversal was a major setback, say Ellis and Fossum. They view it as one of several acts that made it hard to improve standards at SRS. The worst offense, Ellis says, was that someone—and he suspects it was an NSF colleague—pelted his car with eggs and shot out a window of his garage. (The police responded to his call but weren't able to come up with suspects.) When Massey offered to hire Ellis for the SRS directorship, Ellis declined. Why? "Based on what I had observed in the way the foundation operates," says Ellis, "these people would have basically forced me out of the agency." He wasn't sure Massey understood the office politics. Ellis returned to the CRS in June. Fossum left in January.

Ellis claims that a "coterie of bureaucratic miscreants" is in charge of the administrative functions affecting SRS, and that these people are "just as strong as they ever were." As evidence, Ellis and Fossum point out that although the inspector general's report criticizes SRS contracting practices for favoring incumbents, the official in charge was only temporarily removed from overseeing SRS work and has now been reinstated.

SRS chief Brown says that's as it should be, since the inspector general's report gives "no inkling of any personal wrongdoing" in the way the office was run. The report recommends that SRS hold special meetings to bring new competitors into the pool of contract bidders, explain its requirements more clearly so that newcomers can understand them, and include non-NSF people on its technical panels. Brown concedes the contracting process wasn't as competitive as it ought to have been. (In one case, only one company, the incumbent, bid on a new research contract.) And the agency has been trying to improve its handling of conflict-of-interest issues. Brown says, "We agree with [the inspector general's recommendations] 100%, and we are implementing all" of them.

The real problem in SRS, Brown thinks, is that the office was torn apart by "personal feuds" last year. Now, says Brown, "some of the key feuders are no longer with us," and "what we have here is a core of competent people who want to do their job." Massey thinks this sounds about right. "I am very encouraged" by the way Brown is handling SRS, he says.

It's clear that NSF's leaders have convinced themselves that everything's shipshape again; all they have to do now is persuade Congress. ■ ELIOT MARSHALL