

Frank Press Calls Budget Summit

Scientists link federal support of research to national security and a strong economy

President Ronald Reagan's September budget offensive, in which he asked already strapped federal agencies to plan for an additional 12 percent across-the-board reduction in spending, engendered what has been variously described as "confusion," "uncertainty," "panic," and "paranoia," among the scientific community. With a view toward sorting fact from rumor, National Academy of Sciences president Frank Press urgently summoned leaders of the country's scientific establishment to Washington for a day long "dialogue" with federal officials. Nearly 100 scientists representing universities, the national laboratories, and industry dropped other plans to attend the 26 October summit.

It was, as Lewis Thomas called it, a "long and gloomy day." The message, delivered by White House science adviser George A. Keyworth, Frederick Khedouri of the Office of Management and Budget, and agency officials*, was consistent and unrelenting. The President intends to tackle the nation's economic problems by reducing federal spending. There will be less money for research in fiscal 1982 and in the years to come, until the economy is turned around. Said Khedouri, "This Administration has a radically different attitude toward the budget. We've established [dollar] targets and will not lie passively by and just watch them erode," he declared, while trying to assure his listeners that the "science cuts are not mindless." The reason for the "September offensive," he said, lay with the Administration's failure to win from Congress all the reductions it originally asked for in programs including Social Security and Medicaid. To bring things back in line, Khedouri said, "What we came up with, admittedly somewhat simple minded, was the 12 percent figure."

Press, who stated at the outset that the purpose of the meeting was not to challenge the Administration's basic economic philosophy, placed the emphasis on making sure that the budget cutting process is "informed" and that the choices are "rational." AAAS executive officer William D. Carey then led the



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Frank Press

Cuts must be "informed and rational."

charge for an advisory role for science. "The crowd here today can't assert a claim to any given share of the government's budget, but we can ask for due process," he declared, adding that if funding is to be reduced there ought to be some process to "manage an orderly retreat." His opinion was firmly seconded by Edward E. David, president of Exxon Research and Engineering Co., "The basic issue before this group is participation in the budget process for years ahead." Failing that, Edward suggested, the Academy should form a group to produce a counter budget.

While David urged the conference to focus on "participation" as the "effective and statesmanlike approach," others challenged the notion of quietly accepting the 12 percent in additional cuts in the first place. "Why should we take a 12 percent cut if we think we can really contribute to national security and economic recovery," CalTech president Marvin Goldberger wanted to know. Many felt the same, including Alexander Rich of MIT who noted that if one takes a 13 percent rate of inflation into account, the reductions come to a whopping 25 percent.

In light of such prospects, Keyworth's description of U.S. science as "healthy" was little comfort to conference participants who foresee real damage to what they called the "talent" base of the

research community. Young people, it was said repeatedly, will be turning away from research careers in droves if federal support diminishes as much as the Administration intends.

On this point in particular, the interests of academic scientists and those in industry converge. David observed that "Industry does not look to government support of research for specific results for industrial use but rather for what it does to strengthen the educational system." Keith McHenry, vice president of research and development for Amoco Oil, and Mary Good, director of research at UOP, Inc., were among other industry representatives who shared this view, suggesting that it could form the basis of industry's argument on behalf of research.

The summit concluded on 27 October with the issuance of a communique to the Administration and the Congress that pressed the case for support of basic research in science and engineering, even at the expense of systems development and demonstration programs. Much of the argument rested on the relationship between research and broad national goals. "... it is the view of the conference that continued sound investments in research and development by the Federal Government are essential to our national goals, including public welfare, national security, and a sound economy. ... Because of the important relationships between research, technology and the goals of the Administration's economic program—a sound economy and a strong national security—it could be argued that investments in research should be increased, not decreased, in the decade ahead."

Congressional aides representing the key science committees of the House and Senate were present throughout the conference and privately expressed support. "The Senate just isn't going to accept everything the President is asking for," one observed. Indeed, Congress proved itself unwilling to accept all of Reagan's original proposals for budget reductions and experienced observers think it a safe bet that the additional cut of 12 percent will not be enacted across the board.

Participants' reactions to the summit

*Edward Brandt, Health and Human Services; Hans Mark, NASA; John B. Slaughter, National Science Foundation; Alvin Trivelpiece, Department of Energy.

meeting were predictably mixed. Much of the defense of science had the ring of familiar rhetoric to it and there was a sense at times of believers preaching to the converted. Nevertheless, the sense of crisis and vulnerability that pervades

the scientific community is so strong that participants appear determined that the meeting result in more than the 27 October communique. Press called for a "major review of the whole institution of science and technology," observing that

"We should not resist institutional change because we like the old way of doing things." The challenge now is to figure out how to go about it and, in practical terms, just what it means.

—BARBARA J. CULLITON

A Response to Creationism Evolves

The growing threat of state laws mandating the teaching of creationism is prompting a coordinated reaction by evolutionists

With bills already enacted in the states of Arkansas and Louisiana effectively mandating the teaching of the biblical account of creation, and similar initiatives pending in more than 20 other states, time is more than ripe for coordinated reaction by evolutionists and their supporters. Two separate meetings held in Washington, D.C., on 19 and 20 October signal the beginnings of such a reaction. The first meeting was organized by the National Academy of Sciences (NAS) and the second by the National Association of Biology Teachers (NABT).

"This is an extremely important issue, but so far it has been ignored by much of the scientific community," comments Maxine Singer, a National Institutes of Health biologist who chaired one session of the NAS meeting. "In practical terms the problem often arises at the level of the local school board, but scientists have a crucial part to play in supplying relevant information to people directly involved."

Similar sentiments were expressed at the NABT meeting, and the point was dramatically illustrated by Eugenie Scott, an anthropologist at the University of Kentucky. She described how well-informed, broadly based local action in the town of Lexington, Kentucky, successfully blocked the efforts of a creationist group, which had been aimed directly at the school board. "These are social and political battles," she says, "and they are won by preachers and teachers, not just by scientists declaring what they believe to be the truth."

The threat of creationism extends beyond the classroom. "The whole structure of science is under attack," declares William Mayer, director of the Biological Sciences Curriculum Study, Louisville, Colorado. "And it's not just biology that's in danger, it's all of science: geology, physics, astronomy. The creationists are attempting to mandate what is appropriate for study and what is not."

If this is not enough to provoke flutterings in academic dovecots then perhaps the warnings of Niles Eldredge will be. "The creationists have already made moves to secure funding for so-called creation science on an equal footing with evolution science," says Eldredge, a curator at the American Museum of Natural History, New York. "This should be sufficient to convince my colleagues that the house really is on fire."

With the effects of creationism pervading so many levels of science and science education, the need for concerted action is now all too clear. "These meetings have been very important," says Eldredge. "At the very least, they have lifted our spirits for the fight."

The fight will be on many fronts. The most immediate skirmish will occur when the recent debate between University of California, San Diego, biologist Russell Doolittle and the creationists' chief intellectual Duane Gish, of the Institute for Creation Research, is broadcast on national television. Organized by Jerry Falwell at the Liberty Baptist College, Lynchburg, Virginia, and backed by the Moral Majority, the debate was recorded on 13 October. According to observers it was a rout. "Gish had his presentation timed to the last second," said Wayne Moyer, executive director of the NABT. "His delivery was slick and shaped carefully for the medium." Doolittle, by contrast, was heavy, labored, and poorly organized. "He was cut off in mid-sentence just as he was beginning to present the evidence for evolution," says Moyer. Colleagues report Doolittle is anguished because he feels he has failed the scientific community.

The debate was the subject of discussion at both the NAS and NABT gatherings. "People were appalled by it," says Porter Kier of the National Museum of Natural History, Washington, D.C. "Not because Doolittle had done a bad job, but that he had been trapped. The

creationists are well practiced in this kind of presentation. Scientists are not." Moyer insists that it was not Doolittle who let the scientific community down, but rather the reverse. "We let him go there with virtually no help in preparation for the debate and no support once he was there," he says. Doolittle has recently written to many of his colleagues apologizing for his poor performance. But it is clear from the sentiments expressed at the two Washington meetings that the *mea culpa* is felt to be more appropriate in the reverse direction.

All but one voice at the NAS gathering agreed that debating with the creationists should be avoided. "Scientists expect to have an exchange on rational grounds," says Eldredge, "but that's not how the creationists debate." Mayer charges the creationists with misrepresentation of the facts. "They bring up the same old things again and again and again," he says, "such as the second law of thermodynamics and the bombardier beetle, which they must know by now do not support their case. How do you counter this kind of thing?"

One way to counter it, the NAS group agreed, was to promulgate the basic facts about evolution in a short, simple, visually attractive presentation. "We have recommended to the council of the Academy that they consider producing a booklet of this sort," says Singer. The booklet will be distributed to schoolteachers and others "on the front line" so that they shall be better equipped to argue the case for evolution. "I'm frequently asked to recommend a simple straightforward source of this sort, but there isn't anything available," says Mayer. "A booklet of this sort would be extremely valuable."

Meanwhile the NABT meeting took on the more urgent task of responding to the anticipated reaction to the Doolittle-Gish debate. What is needed, the meeting agreed, is a handy creationism refuter