Science Budget Squeeze and the Zero Sum Game

NAS president Frank Press urges scientists to set priorities; he puts training, research grants, AIDS, and superconductivity in top category and suggests some big projects can wait

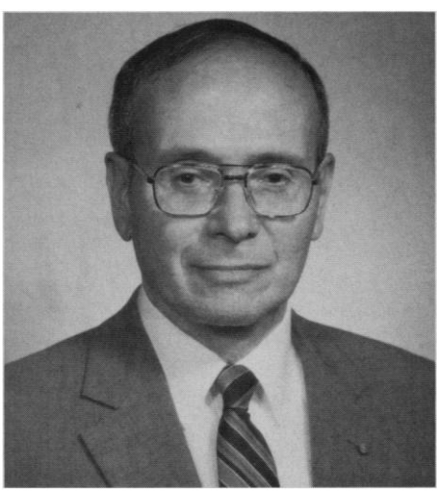
For the first time, dividing up the science budget is a "zero sum game," according to Frank Press, president of the National Academy of Sciences. The Congress is pro-science, Press said in a tough address at the Academy's 125th annual meeting last week. President Reagan's budget reflects a pro-science Administration. But record budget deficits and last October's stock market collapse have forged a new reality—there is not enough money to go around.

Press made the astonishing suggestion that the scientific community bite the bullet and actually set some priorities. And to show it can be done, he flatly stated that funds for training and research grants, for national crises such as AIDS, and for extraordinary breakthroughs such as superconductivity are more important than anything else in science right now. From insights gleaned from regional NAS meetings, Press set his priorities in a way he thinks the Academy can support.

Congress and the Administration have joined in a budget agreement that limits increases in total nondefense discretionary spending to $3.1 billion for fiscal year 1989—"a virtually static budget," Press says. "The President's budget hits this limit by allocating almost all of the allowable increase to science, space, and technology, rather than to social programs, such as housing and community development," Press told the Academy. "But that decision tests political reality," he said, adding that it is destructive to argue for "science at the expense of the homeless," as one congressman put it.

In fact, Press took the scientific community to task for its public and "caustic" debates in the competition for funds, and for framing issues "simplistically" as it does when it pits "big science" against "little science." "Our internal dissension and the mixed, conflicting, and self-serving advice emanating from our community are threatening our ability to inform wise policy-making," Press bluntly stated.

And he apparently was successful in keeping potentially divisive proposals within the Academy ranks from taking form as NAS policy. A large number of members in the physical sciences, and a group representing the biological types, had prepared draft resolutions to oppose the National Science Foundation's emphasis on research centers, at what is perceived as at the expense of individual researchers. The resolutions never made it through.



Frank Press. *Harmony is needed.*

The solutions Press proposed are two. The first has to do with the establishment of some kind of priority-setting mechanism within the Academy, the Institute of Medicine, and the National Academy of Engineering. He wants the three institutions to help Congress and the Administration set funding priorities but admits that they have not even begun to figure it out procedurally. The second concerns the way the next President should structure apparatus for science advice in the White House.

Press acknowledged that scientists are "divided on the issue of establishing priorities across fields." Some warn that "we will make historic mistakes if we try to do this," he told *Science*. Nevertheless, he says, it has to be done.

Dividing the science world into three categories, Press proceeded with the task. The highest priority goes to "preserving the human resource base" with "absolute priority for training and research grants reaching the largest number of scientists." In an interview he said he would exclude from the category 1 list large labs that have few junior scientists. Numbers count. An ability to respond to national crises, such as AIDS, and the need to get back in the space launch business, also fit in category 1, as does the capacity to respond to unexpected opportunities, such as superconductivity.

Press dealt with large projects like the Super Conducting Supercollider (SSC) and mapping the human genome by posing a compromise approach that would preserve the science and accord with political reality—namely, partial funding now on necessary research, full funding later when the budget deficit crisis is resolved. With the SSC, for example, Press favors current funding of magnet research, but delay in funding the 52-mile SSC tunnel. "We know how to build tunnels," he said. "The magnets should come first."

Press struck a responsive chord among Academy members with his first two categories, but generated some controversy with his third, which he labels the "political category," for projects such as the space station, military R&D, and initiatives to enhance U.S. "competitiveness." Admitting up front that some things are properly in the political domain made many of those in the audience uneasy.

Press's other goal is to convince the next President to give his science adviser sufficient status and power to be a real force in managing the total science budget for the nation. "It is astounding but true that nowhere in the federal budget-making process is there an evaluation of the complete federal budget for science and technology and its overall rationale in terms of national goals." Fifteen federal departments and agencies request funds independent of each other. They appear in the budget as 14 separate budget functions, are reviewed by six different divisions of the Office of Management and Budget, and are handled by nine separate appropriations committees of Congress. Press suggested that the system is not entirely rational.

Improvement could come not only from overall coordination by the science adviser, who Press—himself a science adviser to President Jimmy Carter—thinks should have cabinet rank, but also by the establishment of a science office within the House and Senate budget committees.

Press's outline for more coordinated science decision-making has a certain logical appeal but is sure to test the ability of researchers to face the fact that they cannot all be first. This could be a real test of Press's leadership. ■ **Barbara J. Culliton**