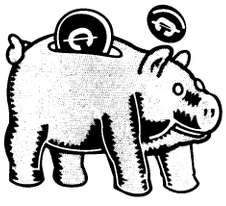
A Glut of "Academic Pork"

Record sums for specific university research facilities were buried in the budget Congress approved last month; agricultural research initiative gets shortchanged



"YOU CAN DO A LOT of good research with a leaky ceiling," Erich Bloch, former director of the National Science Foundation, was reportedly fond of saying as he turned aside the pleas of university people seeking money for new buildings or equipment. Members of Congress, however, appear to be less able to fend off importunate academics—especially in an election year. The 1991 budgets just approved for the Departments of Energy, Defense, and Agriculture include at least $270 million that Congress added for specific research facilities, and what is derisively termed "academic pork" turned up in the budgets of several other agencies.

Because many of these projects were included at the last moment, without hearings, contract competition, or peer review, some agencies have not yet identified all the facilities that Congress loaded into their budgets. But congressional staffers say that when all of them are finally tallied, this could turn out to be a record-breaking session for such gifts. This has sparked concern in the agencies, for although the money is mostly added to their budgets, rather than being taken from existing programs, additional funds are often required in future years. And in the Agriculture Department, there is fear that these projects could jeopardize support for an important new research initiative.

Virtually every major academic organization has condemned pork-barrel funding of research facilities, but universities apparently feel they have little alternative. Says Roy Myers of the lobbying firm Cassidy and Associates, whose academic clients appear prominently among this year's congressional awardees: "All of our programs are for brick and mortar construction, and there has not been a peer-reviewed science facilities program for 20 years." Adds a congressional aide opposed to the practice of pork-barrel funding, "It's hard to fight something with nothing."

And the practice is popular because it works. As Representative George Brown (D–CA), chairman of the House subcommittee on agricultural research, notes, it is very hard for members of Congress to turn down a colleague. "I did my damndest to resist earmarking in the research section of the farm bill," Brown says, "but when the chairman wants something, and the ranking Republican wants something, then how can you resist somebody else who has a meritorious program that may help him get reelected?" Brown is one of the few members of Congress who have argued that there might be a better way of doing business. But even he is not immune to the pressures: His own district will be getting $5 million to upgrade the federal salinity research lab at Riverside, California.

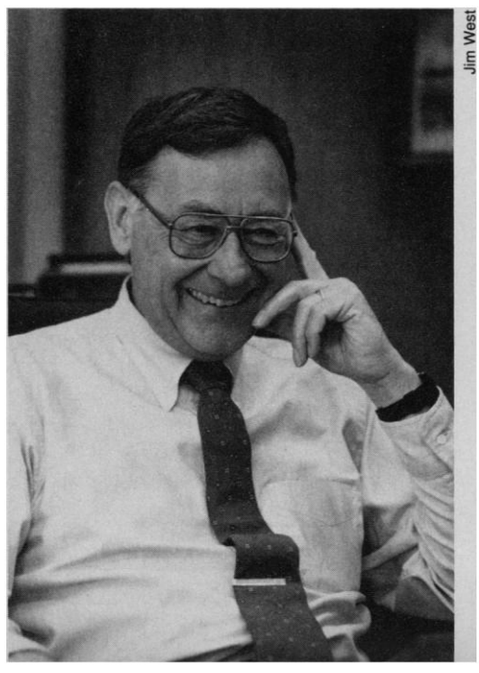
The military budget was one of the most heavily affected. It became so laden with last-minute additions that Senator Sam Nunn (D–GA), chairman of the Armed Services Committee, took to the Senate floor last month to denounce what he called "one of the most glaring problems" in the appropriations process. "Some universities lead charmed lives because they have champions on the defense appropriations subcommittee," he said. As a result, the Defense Department is now funding at least $93 million in university projects it didn't ask for, including $24 million for a nonprofit shipbuilding design consortium formed by Lehigh University in Pennsylvania, $10 million for the Center for Technology and Applied Research at the University of Scranton in Pennsylvania, and $10 million for a pharmaceutical facility at Drake University in Iowa.

DOE is likewise saddled with about $115 million worth of academic construction it never requested. The roster contains several biomedical research centers, each funded at more than $10 million. Recipients include the University of Alabama, Case Western Reserve University, West Virginia University, and Louisiana State University. Because all this money is fenced off, "your ability to plan the best program in the interests of energy policy is compromised," grumbles Donald Stevens, associate director of DOE's Office of Energy Research.

Several smaller pork packets turned up in the budgets of the Department of Commerce and the General Services Administration. GSA is handing over at least $66 million to universities and hospitals hand-picked by Congress, and even some prestigious private laboratories got a piece of the action: The Woods Hole Marine Biological Laboratory landed $4.75 million from GSA for the development of a marine biomedical institute.

Earmarking is an old tradition at the Department of Agriculture, but this year Congress outdid itself as it stuffed $63 million worth of research construction projects into the department's budget. Included are 19 items costing more than $1 million apiece, such as grants for a "biotechnology institute" at the University of Florida at Alachua and a "national soybean laboratory" at the University of Illinois.

USDA officials are particularly upset because while Congress was funneling money into these projects, it cut the budget request for a long-sought major expansion of USDA's competitive grants program. Modeled after the investigator-initiated system at the National Institutes of Health and NSF, this program received a mere $42 million in fiscal 1990, compared to more than $1 billion for all USDA research. Leaders from several agricultural research universities have been trying to boost competitive grants to a level of $500 million



Jim West

Wrong priority. *Charles Hess worries that funds are being earmarked for construction rather than competitive grants.*

(*Science,* 14 April 1989, p. 140) and the Administration requested $100 million for 1991. Congress, however, cut it back to $73 million. If the earmarked construction money had been applied to the competitive program, notes Charles Hess, USDA's assistant secretary for science and education, "We would have been much closer to our goal."

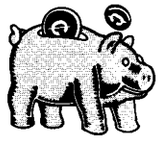
In fact, the earmarking may have jeopardized that goal. Because more money will be needed to complete many of the construction projects, the Office of Management and Budget reckons that Congress has committed USDA, at least implicitly, to $400 or $500 million worth of not yet funded projects—in a sense, giving away the money that might have been used to build up competitive research. Unless USDA and the universities bring these trends under control, an OMB official says, OMB may "abandon" the research community to the mercies of Representative Jamie Whitten (D–MS), chairman of the House Appropriations Committee. Whitten has long resisted growth in USDA's competitive grants program. His view is that he and his fellow congressmen can judge the merits of proposals as well as any scientific peer group.

The pork-barrel route is now so well trodden, however, that it will prove difficult to block. What's needed, according to most observers, are well-funded programs to which universities can apply on a competitive basis. In 1988, Congress took a step in that direction by authorizing the National Science Foundation to establish a facilities program. But it appropriated a paltry $19 million for it in 1990 and $20 million in 1991. But even that's more than the Administration wanted; it requested no funds at all for 1990.

In the meantime, to keep earmarking at USDA under control next year, Hess is thinking of asking all universities who want new facilities to cooperate in a priority-setting exercise. Brown also says he is trying to enlist the President's support "to establish a long-range funding scheme for research facilities in general." Its purpose is to "diminish the effort to earmark funds by individual members of Congress," by assuring them that their state's needs will be cared for in a more orderly process. But these plans are still vague, and many observers are skeptical that old patterns can be changed.

Several years ago a Presidential panel called for a national effort to fund university infrastructure at an annual rate of $250 million. The idea was never adopted, but, as one congressional staffer says, "We're spending about the same amount of money on these facilities, but without a coherent program in place." ■ ELIOT MARSHALL AND DAVID P. HAMILTON

Alaskan Pork: Aurora Fantasia



There's a lot of electricity in the Alaskan air. Some of it is real—a million amps circulating 60 miles above the state in the form of the *Aurora Borealis*. And some of it is metaphorical: controversy over research projects funded by the Department of Defense for harnessing the energy of the aurora and bringing it to Earth. Most physicists say the DOD projects, which will bring more than $37 million to the University of Alaska at Fairbanks next year, are little more than a glut of pork brought forth by the fantasies of a powerful senator.

The senator is Ted Stevens of Alaska, ranking minority member of the Defense Appropriations Committee. Stevens seems to have been turned on to auroral projects in September 1988 when he heard talks in Washington by Alfred Wong, physics professor at UCLA, and Syun Akasofu, director of the Geophysical Institute at the University of Alaska. Akasofu's institute runs the High Altitude Auroral Research Project (HAARP) and the Poker Flat Research Range, where rockets for auroral research are launched. Fourteen months later, a $9-million allocation for HAARP and $10 million for an upgrade of Poker Flat appeared in the DOD's fiscal year 1990 budget.

Visionary? *Senator Ted Stevens of Alaska.*

But that was only the first helping of Arctic pork. This year the DOD budget includes $10 million for HAARP, $25 million for a supercomputer center above the Arctic Circle (expected to be at the University of Alaska), and $2.5 million more for upgrading Poker Flat. All this largesse flows from Stevens' enthusiasm for the borealis. "We have in Alaska," Stevens said on the Senate floor, "what I consider to be one of the most exciting research projects that I've ever encountered. If we could harness this electrojet—this inexhaustible supply of energy in space—and bring it to Earth, we would have a different society. Not only here [in the United States] but in the world." What Stevens has in mind is a three-pronged project, with HAARP carrying out ground-based experiments, the supercomputer doing theoretical modeling, and Poker Flat conducting rocket-based experiments.

Most scientists think Stevens' vision bears no relation to reality. Robert Park, professor of physics at the University of Maryland, called it "wacky." An aurora geophysicist who asked for anonymity told *Science* the idea of harnessing the aurora for earth-bound energy systems is "crazy." The soft underbelly of Stevens' plan is that the electrojet of the borealis—including the million amps and gigawatt or so of energy—is distributed over a huge area. As a result, the current density is only a few amps per square kilometer. That's less current density than is found in a typical household toaster—by a factor of 10^{13}. Extracting energy from such a field would require an antenna the length of a wire strung from Mt. McKinley to Mt. Fuji.

Not too likely. So researchers at the University of Alaska—not wanting to look the gift pig in the mouth—have scrambled to come up with more plausible justifications for taking the loot. Akasofu claims the needs of national defense and basic energy research are driving his program, and that worthwhile science will emerge. The supercomputer, he says, will be used to model global change as part of the DOD Strategic Environmental Research program. HAARP itself, he adds, will include basic research into the auroral plasma, which will help fusion researchers study their plasmas.

Richard Brandt, principal scientist at the Office of Naval Research, who handles the government's involvement in HAARP, justifies the grant as promoting basic research aimed at using the aurora as a communications antenna—an idea he admits is far off.

Whether those claims are mere window-dressing or not, even Stevens admits that peer review by the physics community—to which earmarked DOD projects are not subject—would have precluded the Alaskan awards. According to Fred Spilhaus of the American Geophysical Union, in Senate hearings Stevens argued that although the auroral projects "could solve the country's energy problems," they "would never have been allowed to happen under a peer review process."

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