Science and Technology Policy Headed for Political Maelstrom

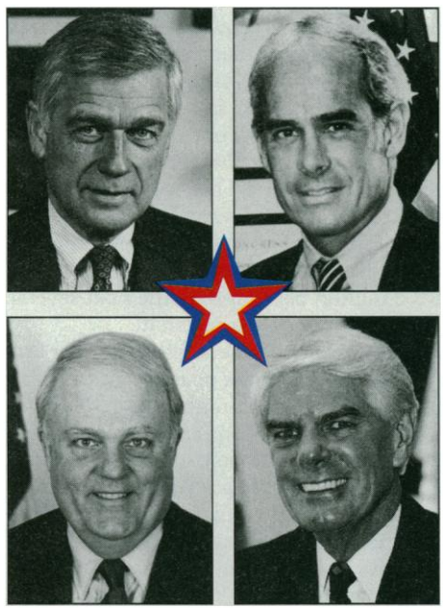
The hand-lettered sign taped to the door of the cramped Republican offices of the House Science, Space, and Technology Committee said it all: "Majority Staff." After 40 years of playing second fiddle to Democrats, on 4 January 1995 Republicans will control the legislative levers that dispense billions of dollars annually in science and technology funding.

What this change means for science depends on three factors—how aggressively the new Congress attacks the budget deficit, who takes over the dozens of committees that set policy and apportion money, and how the Democrats exercise their unaccustomed role as the minority party. But lobbyists and members of both parties agree on two points: Because of laws already in effect, the tight fiscal situation will only get tighter. And while basic research programs are likely to remain largely intact, government support of industrial research seems ripe for the chopping block.

Celebrating Republican lawmakers insist last week's election results—a net gain of eight seats in the Senate and 53 in the House—bode well for science. "Just look at the Reagan and Bush years," says Representative Robert Walker (R–PA), the leading contender for the House majority whip position and a strong science advocate. "We proposed dramatic increases in science spending despite decreases in other areas."

Gloomy House Democrats and their staffs disagree, pointing to Republican deficit-reduction proposals in the past 2 years that would curtail some federally sponsored research. Those include defeated amendments to pare down planned budget increases for the National Science Foundation (NSF), to impose a spending freeze on the National Oceanic and Atmospheric Administration, to abolish the U.S. Geological Survey and the National Biological Survey, to lower by several percentage points the rate that universities would be able to charge the government to recover overhead expenses on federal research grants, and to reduce the president's investment package—which includes increases for research programs ranging from global change and supercomputers to biomedicine—by $4 billion.

Walker dismisses the criticism as partisan sniping. But he admits hostility to federal efforts that subsidize industrial research, such as the Commerce Department's Advanced Technology Program (ATP), one of the fastest growing items in the Clinton Administration's budgets. "On policy matters, of course there is a difference, but we are not going to kill programs like [ATP] with the idea of cutting science and technology," he adds.



Moving up. Republicans in line for committee chairs include *(clockwise from top left)*: Senator Mark Hatfield and Representatives John Porter, Jerry Lewis, and James Sensenbrenner.

Despite the Republican ascendancy, the majorities in both the House and Senate to carry out such plans are relatively small—13 and 2 votes, respectively. And, as the Republicans themselves skillfully demonstrated over the past 2 years, the minority party has plenty of opportunities to block legislation—and this time Democrats have one of their own in the White House with the power to veto bills. Moreover, staffers in both parties say that if House Republicans go too far in trying to reduce government spending by levying draconian cuts on research, the Senate would likely serve as a moderating force.

Senator Mark Hatfield (R–OR), for example, is an old friend of academia who will take over the powerful Senate Appropriations Committee now chaired by Senator Robert Byrd (D–WV). Hatfield successfully opposed attempts to cut National Institutes of Health (NIH) funding during his last stint as chair in the early 1980s. "He will hold the line in preventing major disasters," predicts Jerold Roschwalb, legislative director of the National Association for State Universities and Land Grant Colleges.

But research advocates like Walker and Hatfield may have a tough time doing more than holding the line on science budgets, given their party's intention to cut taxes and reduce the deficit while increasing defense spending. The most likely place for the ax to fall is on the half-trillion dollars of domestic discretionary spending, which contains the vast majority of civilian research programs. The outlook for this category was already grim before the elections. Bipartisan projections made by the Senate Appropriations Committee, for example, show that domestic discretionary funding must remain flat through 1998 to stay within spending caps set by the 1990 budget agreement.

That reality is enough to rain on any politician's parade. "I don't want to be in control now," griped one Republican staffer. "We're the ones who are going to get blamed." Adds John Gibbons, Clinton's science adviser, "The thing to watch is the fervor of cutting [government spending]. If all you do is cut your deficit to the bone and don't invest, you can ruin your economy."

As for areas such as defense that are likely to be favored by the Republicans, the implications for research spending are still unclear. "I don't think it's predictable yet," Defense Secretary William Perry told *Science*. "We have to meet first with the new leaders in the Republican Congress."

Whether science issues appear prominently on upcoming congressional battlefields depends in part on who the generals will be. Next month Republicans will choose their leaders, and the competition is fierce. The chair of the House Appropriations Committee is up for grabs. It is also unclear whether Representative Carlos Moorhead (R–CA), a low-keyed conservative, or Thomas Bliley (R–VA), who has defended academic research in the past, will replace John Dingell (D–MI), the formidable chair of the House Energy and Commerce Committee, who will become the ranking minority member.

Walker is also bidding for a leadership position. By seniority, he would be in line to take over the House science committee from Representative George Brown (D–CA), who eked out re-election to his 12th term. That provides an opening for Representative James Sensenbrenner (R–WI), who has supported the space program but is skeptical of the space station. Sensenbrenner is also a contender for another chair, however.

Some appointments are more certain. Representative Jerry Lewis (R–CA) is likely to chair the House appropriations panel that oversees NSF and the National Aeronautics and Space Administration (NASA), while Representative John Porter (R–IL) almost certainly will head up the subcommittee that controls the NIH budget. Both men are old hands on the appropriations committee and

have strong records of supporting science funding. "Porter clearly identifies NIH as a priority, and he fought hard for it this year," said one lobbyist who requested anonymity. Lewis, meanwhile, was a solid backer of NASA's space station program.

The game of musical chairs is less complicated in the smaller and staider Senate. Senator Larry Pressler (R–SD) is in line to head the Commerce, Science, and Transportation Committee, replacing Senator Ernest Hollings (D–SC). Senator Arlen Specter (R–PA) is likely to chair the appropriations subcommittee that oversees health and education funding, succeeding Senator Tom Harkin (D–IA). Both men have records of defending research funding. In addition to being committee chair, Hatfield may also oversee the Energy and Water subcommittee, now led by Senator Bennett Johnston (D–LA), which funds DOE's civilian research programs. Senator Christopher Bond (R–MO), a strong NASA supporter, would replace Senator Barbara Mikulski (D–MD) as head of the panel that handles NASA and NSF if Senators Phil Gramm (R–TX) and Alfonse D'Amato (R–NY), as expected, move to other committees.

The shifting political winds—53% of the House Republicans in the 104th Congress will have no more than 2 years' experience—make it all the more important for scientists to convey their message to Congress, say several government sources. "Science programs could be a target for cuts because people don't understand them," says one senior White House aide. "And science is not the most effective constituency for lobbying."

The Administration, meanwhile, is on the defensive. Says another White House official: "Our legislative agenda is to survive."

–Andrew Lawler

RUSSIAN SCIENCE

Rivals for Power Lay Down the Law

MOSCOW—The dissolution of the Soviet Union prompted a struggle for power in Russian science that has been raging for the past few years. The chief combatants are the ministry of science, generally perceived to be a reforming influence, and the old guard, represented by the Russian Academy of Sciences (RAS). Now that battle is set to move to a new stage: the Duma, the lower house of the Russian parliament. The Duma's Committee on Culture, Education, and Science is now mulling over three rival bills aimed at creating a new science policy in Russia. One of the bills broadly represents the positions of the ministry, another reflects the views of RAS, and the third is a grassroots document seeking to champion the rights of scientists themselves. The word on the street is that RAS is likely to be the loser in the coming battle.

Just as in the rest of Russian life, changes in the structure of science are slow in coming. RAS still runs most basic science institutes by doling out block grants provided from the state budget, although a few key institutes have been removed from the control of branch academics to become State Scientific Centers, funded directly by the ministry. And in spite of the introduction of competitive, peer-reviewed funding through the ministry-sponsored Foundation for Basic Research and programs run by Western organizations, on the whole, the science power-brokers of the Soviet era—institute directors and influential academicians—still pull all the strings.

The first of the three bills tries to tackle these power structures head-on. Presented to the Duma committee in June and produced by the Ministry of Science and Technological Policy, it elaborates basic principles for the state's scientific policy, such as the freedom to carry out scientific work, legal protection for intellectual property, free access to information, and financial support from the state for scientific institutions, as well as encouraging competition, entrepreneurship, and free-market principles in the funding of research.

Science minister Boris Saltykov calls the draft a "framework law" which will be supplemented with a collection of more detailed laws, each covering a specific problem for the scientific community. For example, a subsequent law will deal with the management of RAS and other academies and nonprofit research organizations. The law "must regulate activities of the highest ranking bodies in science, such as the ministry, the RAS, and the branch academies," says Saltykov. Under this law, the ministry would have full responsibility for science policy, and RAS would be limited to scientific matters.

GEORGE DE KEERLE/SYGMA

Seeking to regulate science. Science minister Boris Saltykov.

RAS's interests are, however, reflected in a rival bill drawn up principally by members of the science committee of the Federal Assembly, the upper house of parliament, and supported by the Communist faction. Agricultural researcher Viktor Shevelukha, a deputy chair of the Duma committee and co-author of the bill, says it was inspired by a call from President Boris Yeltsin for the scientific community to draw up a science law that would protect the independence of Russian science and improve its world standing. The bill declares RAS and other academies the most authoritative bodies in science, specifies academicians' salaries, and limits the title of "scientist" to those with a scientific degree. The procedure for awarding degrees is identical to the existing system, and there is little provision for independent evaluation of the quality of research.

As for the interests of scientists themselves, the third draft law is described by one of its sponsors, Mikhail Glubokovsky, also a deputy chair of the Duma committee, as a scientific Magna Carta that would set science's serfs free from their feudal lords. Drawn up by the reformist Yavlinsky faction in parliament, otherwise known as Yabloko, it has major input from scientists themselves. "By presenting its own version, Yabloko has fulfilled its pre-election promises to scientists," Glubokovsky says. Science desperately needs money, he says, but it also needs a legal basis for scientific activities, to get rid of the unlimited power of functionaries.

The Yabloko law would give everyone the right to conduct scientific research, create scientific institutions, publish results, and compete for funding. Anyone who has a scientific degree or has published at least two papers describing the results of their own research would be considered a scientist. The state is mandated to finance science from the budget, initiate and monitor federal research programs, certify researchers, and manage the property of scientific institutions.

The three draft laws have provoked intense debate in the scientific community, and about 150 submissions have been sent to the Duma. According to biologist Nikolai Vorontsov, chair of the Duma subcommittee on science, all three were strongly criticized at a round-table debate the subcommittee sponsored in St. Petersburg in September. The ministry's law was attacked for being too vague, the Yabloko version for being too idealistic, and the Federal Assembly's bill for being too hard-line and old-fashioned. Around the end of this month, a session of the Duma will debate whether to accept one of the bills or take the best parts of each. Vorontsov predicts that the result will be a composite taken mostly from the ministry and Yabloko versions.

–Andrei Allakhverdov

Andrei Allakhverdov is a writer based in Moscow.