Clinton's Technology Agenda

The election promises a new national emphasis on technology development, a role for the vice president as technology czar—and continued pressure on basic research funding

In returning the Democratic Party to power after 12 years in the wilderness, last week's presidential election could mark a significant turning point in the federal government's policies for science and technology. To judge by his campaign rhetoric, President-elect Bill Clinton stands poised to make sweeping changes in the nation's research infrastructure—potentially the most radical since the system for funding basic research was established more than 40 years ago. With campaign statements that included pledges to adopt an aggressive policy to support the development of critical industrial technologies, reform the public schools (with an emphasis on science and math education), and shift funds from defense to civilian research, the nascent Clinton Administration is on record as favoring a much more active role than the more laissez-faire Bush Administration played in setting research and technology priorities.

Some sectors of the scientific community may view these promises warily, however.

ALLAN TANNENBAUM/SYGMA

Victors. President-elect and technology chief.

Clinton has carefully avoided pledging much in the way of budget increases for basic science agencies, and in an era of lean budgets his technology policy could siphon resources from fundamental research—a possibility that is already prompting concern at the National Science Foundation (NSF) and the National Institutes of Health (NIH) (*Science*, 6 November, p. 880). Similarly, Clinton has pledged his support for two controversial "big science" projects, the Superconducting Super Collider (SSC) and NASA's space station, that critics complain are taking money away from more deserving "small science." Nevertheless, Clinton will enter the White House with one of the strongest shows of support the scientific community has ever delivered for a presidential candidate—an endorsement by a star-studded committee of scientists and engineers (see box next page).

Emphasis on technology

Many of Clinton's positions on science and technology were outlined in a statement on technology policy issued a few weeks before the election. Clinton promised to double the budget for the National Institute of Standards and Technology (NIST), which has taken the lead in assisting industry with developing manufacturing technologies; set

Congress: A Familiar Face Amid Turmoil

Representative George Brown (D–CA), best known to scientists as chairman of the House Science, Space, and Technology Committee, can breathe a sigh of relief—and so can his many supporters in the scientific community. After a shaky campaign start and indications that he could be swept out of office in the anti-incumbency tide, Brown survived a challenge from a well-known opponent—Dick Rutan, who made headlines for his nonstop around-the-world flight and who ran with heavy backing from the national Republican Party (*Science*, 29 May, p. 1267). Brown coasted to a 51-44 victory, largely because an independent candidate cut into Rutan's margin.

But Brown, who had been endorsed by a bipartisan group of Nobelists, former presidential science advisers, technology executives, and other well-known scientists (many of them also Clinton supporters—see page 1077), is one of the few points of continuity scientists will find in the next Congress. After an extraordinary number of voluntary legislative retirements and a few involuntary retirements on Election Day itself, the new Congress—particularly the House—will look quite different from the one that adjourned in October. So many vacancies have opened up on key spending and tax-writing committees that legislators will spend much of the next few weeks wheeling and dealing for choice committee spots. As a result, it's nearly impossible to say with certainty what Congress is going to look like when it convenes on 3 January 1993.

Washington is already awash in rumors that House Democrats will strip the ailing Jamie Whitten (D–MS) of his Appropriations Committee chairmanship and hand it to William Natcher (D–KY), long a friend of biomedical research. Regardless of how that power play works out, there are sure to be changes on many of the House appropriations subcommittees with responsibility for science funding. Five vacancies are opening up on the panel responsible for NIH, three on the energy panel, and five on the panel overseeing NASA and NSF—including two created by the retirement of Bob Traxler (D–MI) and the defeat of Bill Green (R–NY), both of whom opposed the space station.

Also gone next year will be House science oversight subcommittee chairman Howard Wolpe (D–MI), who took investigative swipes at the NSF and the Superconducting Super Collider, and House government operations oversight subcommittee chairman Ted Weiss (D–NY), who probed conflicts of interest and scientific misconduct. (Wolpe announced his retirement earlier this year, and Weiss died unexpectedly last September.) Still ensconced is Energy and Commerce Committee chairman John Dingell (D–MI), a Capitol Hill baron who is likely to hold significant sway with the new Administration.

Over on the Senate side, the main change for science and technology is the vacancy left by Al Gore's elevation to vice president. Tennessee's Democratic governor, Ned McWherter, is said to be considering appointing Representative Marilyn Lloyd (D–TN) or John Tanner (D–TN) to fill Gore's seat, but the chairmanship of the Senate commerce subcommittee on science and technology, which Gore held, is likely to go to a Senate veteran—possibly Jay Rockefeller (D–WV).

–D.P.H.

strict national standards in math and science education; transfer at least $7 billion from defense-related research to civilian research on critical technologies; and urge federal laboratories to devote 10% to 20% of their budgets to collaborative research with industry.

Some elements of the new Administration's technology policy, however, may surprise scientists who thought the Bush Administration was already going too far in emphasizing applied research. In particular, Clinton has said he would double the Small Business Innovation Research (SBIR) program—a government-wide program that is currently funded by a legal requirement that research agencies set aside 1.25% of their R&D budgets for small businesses. Clinton's technology plan also suggests that the White House might try to roll back some regulations that private industry finds troubling. For example, Clinton's statement criticized federal sunshine laws that "prompt premature disclosure of information that is essential to U.S. long-term competitiveness by forcing open meetings and giving foreign competitors immediate access to sensitive material" and conflict of interest regulations that "inhibit the participation of knowledgeable private-sector individuals in government discussions" of U.S. competitiveness.

White House science mechanics

Clinton announced on 21 September that he would make Vice President-elect Al Gore his point man on science and technology issues—a role that would give the vice president an unusually powerful role in domestic issues. In response to questions posed by *Science* in October, Clinton said, "I will give Vice President Al Gore the responsibility and authority to coordinate our overall technology, and by extension science, policy across all government agencies" (*Science*, 16 October, p. 493). That raises the question of what role the president's science adviser will play in the Clinton Administration.

Aides insist that Gore won't usurp the role of science adviser—a post they say will go to a scientist with research experience—and Clinton has promised that the position will be at the level of assistant to the president. "The science adviser will make sure the policy is in order" and "Gore will make sure that it's useful," says one aide. The adviser will retain authority over federal research agencies, but Gore will be charged with "turn-

SPECIAL NEWS SECTION

A special news report on minorities in science begins on page 1175. The news section that begins on page 1076 combines News & Comment and Research News.

They Backed the Winning Team

Shortly before the election, a Council of Scientists and Engineers for Clinton/Gore was announced by the Clinton campaign. The council hopes to have some input into the transition (see main story). No equivalent body was put together for the Bush campaign.

Philip W. Anderson
Princeton University
Fred C. Anson
California Institute of Technology
Richard C. Atkinson
Chancellor, University of California, San Diego
Francisco Ayala
University of California, Irvine
John N. Bahcall
Institute for Advanced Study
Jacqueline Barton
California Institute of Technology
Paul Berg
Stanford Medical Center
Lewis M. Branscomb
John F. Kennedy School of Government
Harold Brown
Center for Strategic & International Studies
George Bugliarello
President
New York Polytechnic University
George C. Campbell Jr.
President, National Action Council for Minority Engineers
Kenneth M. Case
Rockefeller University
Jewell Plummer Cobb
California State University, Los Angeles
Robert Conn
University of California, Los Angeles
James Cronin
Fermi National Laboratory
Peter B. Dervan
California Institute of Technology
John Deutch
Massachusetts Institute of Technology
Sidney D. Drell
Stanford Linear Accelerator
Paul R. Ehrlich
Stanford University
David Eisenberg
University of California, Los Angeles
Mostafa A. El-Sayed
University of California, Los Angeles
Mary K. Gaillard
University of California, Berkeley
Ted Geballe
Stanford University
Murray Gell-Mann
California Institute of Technology
Robert N. Ginsburg
University of Miami
Marvin L. Goldberger
University of California, Los Angeles
Kurt Gottfried
Cornell University
David J. Gross
University of California, Berkeley
Wesley Harris
University of Tennessee
Christopher Harrison
University of Miami
Dudley Herschbach
Harvard University
John P. Holdren
University of California, Berkeley
Leroy Hood
University of Washington
John J. Hopfield
California Institute of Technology
Donald F. Hornig
Harvard School of Public Health
Leon Lederman
Fermi National Laboratory
Yuan T. Lee
University of California, Berkeley
Francis E. Low
Massachusetts Institute of Technology
Gordon J. F. MacDonald
University of California, San Diego
Shirley Malcom
American Association for the Advancement of Science
Mario J. Molina
Massachusetts Institute of Technology
Earll Murman
Massachusetts Institute of Technology
Arno A. Penzias
AT&T Bell Laboratories
William Perry
Technological Stategies & Alliances
Ben Rich
Lockheed Corp.
Sally Ride
University of California, San Diego
Harold Rosen
Hughes Aircraft
Walter Rosenblith
Massachusetts Institute of Technology
Marshall N. Rosenbluth
University of California, San Diego
F. Sherwood Rowland
University of California, Irvine
John Rubel
Litton Industries
Carl Sagan
Cornell University
Stephen H. Schneider
Stanford University
J. Robert Schrieffer
Florida State University
Lucy Shapiro
Stanford Medical Center
Melvin I. Simon
California Institute of Technology
Timothy Springer
Harvard Medical School
Charles H. Townes
University of California, Berkeley
Harold E. Varmus
University of California, San Francisco
Warren Washington
National Center for Atmospheric Research
Steven Weinberg
University of Texas
Albert D. Wheelon
Hughes Aircraft
Sheila Widnall
Massachusetts Institute of Technology
Jerome B. Wiesner
Massachusetts Institute of Technology
Frank Wilczek
Institute for Advanced Study
Clifford Wing
Duke University
Herbert York
University of California, San Diego

Science Jobs: Who Will Get Lost in Transition?

IRA WYMAN/SYGMA

There's nothing like a presidential transition to crank up Washington's rumor mills, as the incoming team decides who will occupy the 3000 federal jobs that are filled by presidential appointment. At this stage, speculation over science and technology appointees is largely focused on how many incumbents might keep their jobs in what Clinton has promised will be a "nonideological" administration. The short answer: not many. What follows is the scorecard immediately after the election.

👎 **Presidential science adviser.** D. Allan Bromley. The only question here is how quickly Clinton will appoint his own adviser and how well that individual will get on with the Administration's point man on science and technology, Vice President-elect Al Gore (see main text). The Council of Scientists and Engineers for Clinton/Gore (see box) may be influential in the selection.

👎 **Assistant Secretary for Health.** James O. Mason; **Undersecretary of Commerce for Technology Administration.** Robert White; **Assistant Secretary of Agriculture for Science and Education Administration.** Duane Acker; **Director of Defense Research and Engineering.** Victor Reis.

Officials in these four politically sensitive positions, which traditionally turn over with a new administration, have all but packed their bags.

👍 **Director, National Science Foundation.** Walter Massey. Despite one prediction by a well-placed Senate staffer that Massey "doesn't seem like an obvious holdover" into the Clinton Administration, the NSF director has several points in his favor. He holds a 6-year appointment to what has traditionally been a nonpartisan post, he has been considering a new emphasis on industrial-related research, and he is a well-regarded African-American holding a high-ranking federal position at a time when Clinton will be eager to reassure Democratic constituencies of his commitment to hiring women and members of minority groups.

❓ **Director, National Institutes of Health.** Bernadine Healy. Healy would seem to hold many of Massey's advantages: She is a woman in a highly visible post, she has emphasized applied research in NIH's strategic plan, and she has launched a number of appealing initiatives in women's and minority health. But Healy, who served in Ronald Reagan's Office of Science and Technology Policy, is closely associated with the last two Republican administrations. Moreover, a source close to the Clinton transition team says her chances could be hurt by the fact that Representative John Dingell (D–MI)—who has clashed with Healy over scientific misconduct—may get a say in what happens to her. "I'm not saying Clinton will do what Dingell says, but he'll certainly pay attention," says the source.

👎 **Director, Office of Energy Research.** William Happer Jr. The capable but low-profile head of basic science in the Department of Energy seems likely to fall victim to the horde of Democrats seeking office after 12 years out of power.

👎 **Director, Defense Advanced Research Projects Agency.** Gary Denman. Another likely casualty of the oncoming Clinton technology policy. One rumor has it that Craig Fields, who ran the agency until Bush ousted him in 1989 for steering too close to industrial policy, might make a comeback.

❓ **Director, National Institute for Standards and Technology.** John Lyons. Lyons' predecessor served under Presidents Ford, Carter, and Reagan—a trend Lyons would like to continue. But that was before NIST became a hotbed of technology policy activism.

👎 **Administrator, Environmental Protection Agency.** William K. Reilly. Despite a tenure marked by rear-guard actions against some Bush Administration policies, Reilly is still seen as too closely tied to Republican environmental goals.

❓ **Commissioner, Food and Drug Administration.** David Kessler. Kessler's future under Clinton is far from assured, given new presidents' traditional desire to install their own people in regulatory agencies. But Kessler would have been an almost certain casualty in a second Bush term, thanks to proconsumer stances that alienated Republican business constituencies.

❓ **Administrator, National Aeronautics and Space Administration.** Daniel Goldin. The former TRW executive has launched the most far-reaching—and tumultuous—reform effort NASA has ever seen. Whether or not he gets to continue his work (which Gore has reportedly found impressive) may depend on whether Goldin's changes to date have alienated too many people within (and without) NASA.

–D.P.H.

With reporting by Eliot Marshall.

ing research into social goods," he says, adding that "[Current science adviser D. Allan] Bromley could set up the high-performance computing initiative, but he had no authority to go to the FCC and say, 'You need to write regulations for fiber-optic cable as well as for copper.' Gore can't do it all, but he can coordinate the effort."

Scientists who have met with Gore say they're convinced he'll be a natural in the role. "It's quite clear that he understands the coupling between education, basic science, industry, and a successful economy," says physicist Charles Townes, a Nobel laureate at the University of California, Berkeley, who met in a group with Gore several weeks ago. "It's my hope that he'll help the new administration recognize appropriate ways of dealing with that."

Getting the president's ear

Townes is a member of the Council of Scientists and Engineers for Clinton/Gore, and as the transition to the Clinton Administration gets under way, these scientists are hoping their role did not end with last week's election. So far, at least, the group seems to have gotten its wish: Ellis Mottur, Clinton's director of business and high-tech constituencies, says the council will be a "key resource" in planning science and technology issues in the presidential transition—including the selection of a science adviser and other top science posts. Beyond that, Mottur says, the Administration hopes to establish a "continuing relationship" with the group. Will that relationship blossom into one that can relieve basic scientists of their worst fears about technology policy? An early indication will come in the new Administration's first budget, due to be unveiled early in the New Year.

–David P. Hamilton