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WHITE HOUSE

President's New Adviser Ready To Put Science in Its Place

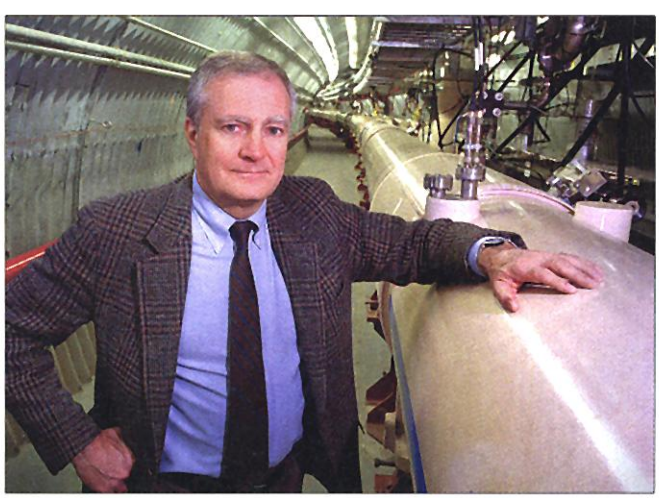
After a long vacancy, the nation's top science job may be filled by fall. President George W. Bush last week chose John H. Marburger III, a 60-year-old physicist, former university president, and current national lab chief, as his nominee for the post. Marburger vows to bring scientific rigor to the Administration's decisions but warns that he will be just one of many voices offering advice on hot-button issues such as ballistic missile defense, stem cells, and global warming.

Marburger's nomination, first reported by *Science*'s online daily news service, *Science*NOW (sciencenow.sciencemag.org), was sealed in a 15-minute Oval Office meeting with Bush on 20 June. A lifelong Democrat, Marburger says he will keep personal opinions to himself—and he advises the rest of the community to do the same. "Let's not put science in the position of opposing but in the position of informing," adds Marburger, who directs Brookhaven National Laboratory on Long Island and served as president of the State University of New York, Stony Brook, for 14 years.

Science policy officials greeted Bush's choice with plaudits—and relief. Many were pleased to learn that the White House will now get a boost in technical competence, after worrying that the president has made some key R&D-related decisions without adequate scientific advice (*Science*, 11 May, p. 1041). Marburger is "smart, sensible, cautious—but candid," says Neal Lane, science adviser to former President Bill Clinton and now a physicist at Rice University in Houston. "I feel really good about the appointment." Adds Massachusetts Institute of Technology physicist Ernest Moniz, former chief scientist at the Department of Energy (DOE), which oversees Brookhaven: "This is a good choice: He has both academic and lab expertise."

Marburger took the Stony Brook job in 1980 after leaving the University of Southern California in Los Angeles, where he was dean of arts and sciences and a researcher in nonlinear optics. As Stony Brook's president, he built up a modest health science research and clinical program as well as a high-energy physics effort. He also headed the 80-member Universities Research Association during the political battles over the Superconducting Super Collider, which was cancelled.

Colleagues describe Marburger as a gregarious manager with broad interests and a sophisticated understanding of the relation between science and politics. Those skills were put to the test in 1998, when DOE brought him in to rescue Brookhaven from a crisis in which researchers and community activists were battling over claims that the lab was endangering the environment (*Science*, 25 February 2000, p. 1382). Some scientists, grumbling that Marburger may be too well attuned to public relations, are still angry that DOE shut a research reactor at Brookhaven on Marburger's watch. "People are disappointed he doesn't show more passion for research," complains one Brookhaven researcher who thinks that nuclear physics got shortchanged.



Filling a vacuum. Marburger, here beside a Brookhaven accelerator, will lead the White House science office.

Marburger insists that the lab was losing public support and that fighting to save the reactor would have been a mistake. Indeed, many applaud his efforts to create an atmosphere of trust between activists and scientists. "He took a nervous, fearful, and hostile community and did a remarkable job turning it around," says Patricia Dehmer, chief of DOE's basic energy research division. Community activists agree. DOE has consistently given high marks to Brookhaven's operator—Brookhaven Science Associates, a consortium of Stony Brook and Battelle Memorial Institute—since it took over in 1998 with Marburger as director.

In his new job, Marburger says he will stick to providing scientific and technical, not ethical, advice. On stem cell research, for example, he says "no one doubts stem cells are valuable to research and hold tremendous promise—on that, there's no scientific controversy." But he adds that the matter "is not going to be decided by science."

Marburger acknowledges that climate studies have shown that human activity is at least partly responsible for global warming. But he says the decision on what to do about that knowledge involves other factors, such as the economic impact of the Kyoto Protocol, which he says could be "kind of scary" for the United States. Marburger defends the Administration's recent decision to call for additional global change research following the release of a National Research Council report (*Science*, 15 June, p. 1978). "There is some uncertainty," he says, adding, "we do need more information to draft an effective policy."

Strategic defense issues will present another challenge for Marburger. He characterizes the current policy of mutually assured destruction as "bordering on insanity" and notes that "now we have a president with the courage to change that." As for ballistic missile defenses, he says that "no one wants to propose a system that doesn't work. The question is what can be done."

Old science policy hands say Marburger's lack of Washington experience could make it difficult for him to penetrate the White House's tight-knit fraternity. "The question is whether he will be marginalized as an outsider, as a representative of the scientific community," says one former White House official. "That is the death knell for any adviser." But Lane says Marburger's ability to

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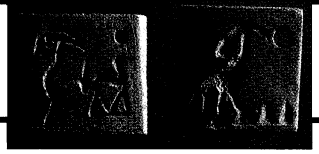


get along with people will serve him well. "It's all about people there," says Lane. "No amount of rational argument and well-reasoned memos replace creating trust."

Marburger's Senate confirmation as director of the Office of Science and Technology Policy may not come until fall, but one Administration official predicts it will prove "a cake walk." That may be too late, however, for him to put his stamp on the 2003 budget proposal, which is already in the works.

Marburger says he was impressed during his Oval Office meeting by the president's willingness to listen and his "acute grasp of the fundamentals." The nominee adds that he did not insist on any "formal access" to Bush, but that he is satisfied he'll be able to work closely with the president and his team. The challenge for Marburger will be to maintain the detachment he advocates while making an impact on the White House's rough-and-tumble politics. **–ANDREW LAWLER**

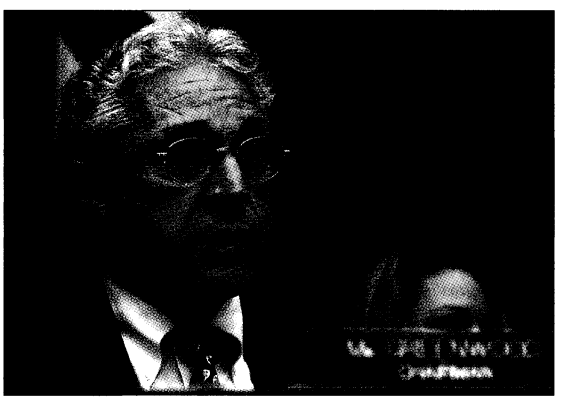
SCIENCE POLICY

Bush Grapples With Stem Cells, Cloning

As summer temperatures hit Washington, D.C., last week, debate over human cloning and research on human embryonic stem (ES) cells—two separate but intertwined issues—heated up as well. Congress held two hearings on whether to ban human cloning, a decision that could affect work with ES cells; the National Academy of Sciences (NAS) hosted a meeting on the scientific promise and puzzles of stem cell research; and the National Institutes of Health (NIH) delivered a 200-page tome—all fodder for President George W. Bush's imminent decision on whether to allow federal funding of research with these cells, which are derived from week-old embryos. Meanwhile, rumors swirled about a major split within the Administration.

Of the two issues, human cloning is less contentious. The vast majority of scientists and lawmakers oppose any attempts to produce a child by cloning. They are split, however, on how narrowly defined any ban should be. Some researchers would like to use somatic cell nuclear transfer—the method used to create Dolly—to explore ways to make genetically matched stem cell lines for patients. The idea is to use a patient's cell to create a cloned embryo, from which scientists could derive ES cells. A bill introduced by James Greenwood (R–PA) in early June would allow scientists to conduct such research with human cells but would prohibit the creation of embryonic clones with the intent to implant them in a uterus. A second bill, introduced by Dave Weldon (R–FL) and Bart Stupak (D–MI), would ban all use of somatic cell nuclear transfer in human cells, with the ban to be revisited in 5 years.

At a 20 June hearing weighing the benefits of the two bills, Tom Okarma, president and CEO of Geron Corp. in Menlo Park, California, argued against a ban on research cloning. He doesn't foresee producing genetically matched ES cells for therapy anytime soon—the approach is impractical and far too expensive, he says—but he argued that research on nuclear transfer in humans is vital to the future of so-called regenerative medicine. Geron's goal, he explained, is to understand how an egg can reprogram the nucleus of an adult cell so that it can once again direct the entire process of development. Ideally, such research might enable scientists to transform a skin cell directly into a pluripotent stem cell without using an oocyte or creating an embryo.



Limited ban. Congressman James Greenwood's bill would allow scientists to pursue research on human cloning.

Alexander Capron, a bioethicist at the University of Southern California in Los Angeles, is not convinced. In a separate hearing, he supported the Weldon bill's complete moratorium, saying that the prospects for a scientific payoff from research cloning do not yet justify the risk. Capron worries that if embryos are created, for whatever reason, some renegade will inevitably implant one in a womb. But if future research in animals convincingly demonstrates the therapeutic potential of ES cells derived from clones, then the benefit would outweigh the risk, Capron said.

The Administration, which has been playing its cards close to the chest, tipped its hand at one of the cloning hearings. Claude Allen, deputy secretary of Health and Human Services (HHS), told the hearing that the Administration opposes any form of somatic cell nuclear transfer with human cells—even for research purposes. Although some advocates of ES research saw this as an indication that the Administration is also likely to decide against federal support for any research using ES cells, Allen said the two issues are separate and reiterated that President Bush had not yet made his decision on ES cell research.

In Congress, support seems to be building for ES cell research—from some unexpected corners. Orrin Hatch (R–UT), a vocal abortion opponent, wrote to President Bush on 13 June urging him to allow federal funding. And Trent Lott, Senate minority leader and another abortion opponent, said on NBC's *Meet the Press* that the research had great potential. He declined to say whether he supported federal funding, however.

HHS Secretary Tommy Thompson has been circumspect in his public comments. But the former Wisconsin governor has long been a supporter of ES cell research, and scientists who have spoken with him say he was encouraging. His views evidently contrast with those of Karl Rove, the president's chief political strategist, who reportedly worries that supporting stem cell research will alienate Bush's antiabortion supporters.

To prepare for the Administration's decision, Thompson requested both a scientific and legal review of guidelines proposed last year by NIH that would permit federal funding of research on ES cells. On 20 June, NIH's office of public policy forwarded him a 200-page document that reviews published results with embryonic, fetal, and adult stem cells. (It is not slated for public release.) The legal review is ongoing, says HHS spokesperson Bill Hall.

Opponents of research with ES cells often tout the benefits of stem cells derived from adult tissue, claiming they are just as versatile—and obviously far less controversial. But a symposium at the NAS on 22 June underscored the scientific consensus that it is still too early to tell which source of stem cells will prove most useful.

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