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FOIA MARKER

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Record Group/Collection: George H.W. Bush Presidential Records
Collection/Office of Origin: Science and Technology Policy, Office of (OSTP)
Series: Bromley, D. Allan, Files
Subseries: Global Climate Change Files - Conferences/Meetings

OA/ID Number: 62056
Folder ID Number: 62056-005

Folder Title:
White House Conference on Science and Economics Related to Global Change - 6/89-12/89 [2 of 2]

Stack:

Row:

Section:

Shelf:

Position:

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11/6/89

These papers deemed NOT confidential
by DAB on 11/3/89. Papers prepared for
Hague Ministerial 11/6-7/89.

SS

THE WHITE HOUSE

WASHINGTON

October 26, 1989

MEMORANDUM FOR D. ALLAN BROMLEY, ASSISTANT TO THE
PRESIDENT FOR SCIENCE AND TECHNOLOGY
C. BOYDEN GRAY, COUNSEL TO THE PRESIDENT
MICHAEL DELAND, CHAIRMAN, CEQ
DICK SCHMALENSEE, MEMBER, CEA
BOB GRADY, OMB
NANCY MALOLEY, OPD

FROM: STEPHEN DANZANSKY
DEPUTY ASSISTANT TO THE PRESIDENT AND
DIRECTOR OF CABINET AFFAIRS

SUBJECT: Documents for the Hague Ministerial

Attached are three ~~classified~~ documents: Administrator Reilly's revised draft statement for the Hague Ministerial, revised draft guidelines for the U.S. delegation to the Hague Ministerial, and the original delegation guidelines drafted and cleared by the PCC on Climate Change prior to the decision on U.S. representation at the Hague.

The documents will be the subject of the 12:00 p.m. meeting today in my office, 231 OEOP, at which time we will review them for consistency with the decision and make any necessary changes.

Please bring these copies along to our noon meeting to be collected at that time.

Declassify on OADR

Withdrawal/Redaction Sheet

(George Bush Library)

Document No. and Type	Subject/Title of Document	Date	Restriction	Class.
01a. Report	Draft Guidelines for U.S. Delegation to Hague Ministerial (3 pp.)		(b)(1)	C

Collection:

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Series: Bromley, D. Allan, Files
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WHORM Cat.:
File Location: White House Conference on Science and Economics Related to Global Change - 6/89-12/89 [2 of 2]

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RESTRICTION CODES

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01b. Statement	Suggested Changes to Reilly Statement (3 pp.)		(b)(1)	C

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Office: Science and Technology Policy, Office of (OSTP)
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01c. Statement	Suggested Revisions to Reilly Hague Statement (9 pp.)		(b)(1)	C

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Series: Bromley, D. Allan, Files

Subseries: Global Climate Change Files - Conferences/Meetings

WHORM Cat.:

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October 27, 1989

Global Warming (Updated)

The President's concern over global climate change is manifested in the actions this administration has taken:

- the Clean Air Act - which sets firm goals for the reduction of SO₂ and NO_x.
- the phase out of CFCs by the year 2000
- increasing the CAFE (Corporate Average Fuel Economy) standards to 27.5 miles per gallon
- leading the world in global climate research -- increasing global climate research funding in the FY 90 budget. We increased funding for the Committee on Earth Science (CES) research by 43% to \$191.5 million. The cumulative global climate research budget, government-wide, for FY 90 is approximately \$500 million. (The CES coordinates government-wide global climate research and is under Dr. Bromley at the Office of Science and Technology Policy.)
- Dr. Allan Bromley, head of the Office of Science and Technology Policy, heads the Domestic Policy Council working group on global change. This DPC working group is actively working to develop administration policy on global change issues.

In addition, The United States is an aggressive participant in the United Nations' Intergovernmental Panel on Climate Change (IPCC). We chair the Response Strategies Working Group (RSWG) of the IPCC (one of three working groups of the IPCC) which studies potential responses for dealing with global climate change issues, such as global warming and ozone depletion. The ability to pose and study responses will be enhanced when the other two working groups, Science - headed by the British and Effects - headed by the Soviets, make greater progress on their work. They deal with analyzing the problem of global climate change, establishing a consensus on the science of climate change as we now know it, and what the effects of increases in global warming gases will be on the environment.

The IPCC is expected to issue a report in November 1990 on its progress. The U.S. will host the next plenary meeting of the IPCC in the States, probably Washington D.C., in February 1990 where the working groups will discuss their findings.

Back to what we have done so far:

We have already started preliminary discussions on a framework convention on global warming in the Response Strategies Working Group (RSWG). We hosted a working group level meeting, under the auspices of the RSWG, in Geneva on October 2. (You may recall back in May, Governor Sununu cabled to our representatives in Geneva to get members of the RSWG to agree to attend a global warming workshop to "identify the scientific, legal, technical and economic issues critical to further progress on beginning negotiations on an international convention on global climate change." That workshop was the one held on October 2.)

On a framework convention:

Our position on a framework convention is that we support discussions on global warming to develop an international consensus on the steps necessary to prepare for a framework convention.

We feel that improper or ill-advised actions, ie: those taken before we have an international consensus on the science and the effects of global climate change, could have enormous unintended environmental, economic and social consequences. We feel that serious and sustained scientific, technical, economic and legal analysis is necessary before any global climate convention negotiations can be successful. (Attached is the President's statement from May 12 that should be helpful.)

Note: in an earlier version of the following was included:

- Council on Environmental Quality issued guidance to Federal agencies to consider global warming in the preparation of environmental impact statements

This is currently under clearance at OMB and is a topic of much discussion in the Administration. Until the issues is settled we should not talk about it.

THE SCIENTIST[®]

VOLUME 3, No. 21

THE NEWSPAPER FOR THE SCIENCE PROFESSIONAL

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Photo: Art Resources



DEAD ISSUE? Autopsies were controversial in the 17th century, when Rembrandt painted this study. They're controversial again today, as scientists complain that not enough of them are being performed and research suffers as a result (see story on page 14).

EC Looks To Shut Out U.S. Science

As 1992 nears, the European Community pushes for a continental focus that could dim U.S. hopes for collaboration

By G. CHRISTOPHER ANDERSON

WASHINGTON—On the second Wednesday of each month, a dozen diplomatic science advisers gather behind closed doors at the French embassy here and talk about the future. The diplomats represent the 12 nations of the European Community (EC), and the focus of their discussion is 1992, the year targeted for the establishment of a unified European economy. Although the EC now controls only a small share of the funds that Europe spends on science, that share is expected to grow considerably in the next decade. And the EC has already sent a clear message to United States scientists: Their participation in European projects, at least at first, will be by invitation only.

That attitude may spell trouble for U.S. science policymakers. In an era where "big science" is increasingly the norm, international collaboration is central in the thinking of project planners. From the Human Genome Project to the Superconducting Supercollider, U.S. scientists are backing initiatives that go well beyond the financial resources of a single country. But so far the search for partners has not gone well, and the arrival of European integration in 1992 appears unlikely to improve matters much; indeed, at least initially, it may make collaboration even more difficult.

Performance Biomechanics: Music To Scientists' Ears

Neurologists and engineers expect research on singers and instrumentalists to reveal processes behind human mechanical motions

By JEFF SEKEN

Neurologist Frank Wilson's first

found himself for the first time really watching her hands. And the display of speed, dexterity, and timing he witnessed amazed him. His daughter's fingers skipped across the keys in a blur. How could she make her fingers go so fast, he wondered. At least, that was his initial thought. His training in neurology soon led him to frame the question in terms more appropriate to his

Has Neuroscience Society Growth Been Too Fast For Its Own Good?

The 14,000-member body meets in Phoenix this week; some participants fear that the society has become unwieldy

By ELIZABETH PENNIS

Forty-five years ago, David Hubel thought he would become a physicist. That is, until he went to his first international scientific meeting. "I was scared off by the number of neuro-

and undermine the society's very reason for being. "I think everyone, young and old, is appalled about the size [of the society]," he says.

Appalled, yes, but many members still wouldn't want to be anywhere else during the week-long (Continued on Page 8)

Bromley Tells Congress Science Must Bolster U.S. Leadership

Bromley Tells Congress Science Must Bolster U.S. Leadership

Forty-five years ago, David Hubel thought he would become a physicist. That is, until he went to his first international scientific meeting. "I was scared off by the number of people," recalls Hubel, so he switched to a science still in its infancy and far more intimate—a science called neurophysiology. The move proved to be very useful for science—in 1981 Hubel received the Nobel Prize in medicine for his contributions to understanding of the organization and functioning of the brain.

But today Hubel, a professor at Harvard, must worry that his field is going through the same explosive growth that drove him away from physics. As president of the 14,000-member Society for Neuroscience, which is holding its 19th annual meeting this week in Phoenix, Hubel is grappling with the possibility that this growth will discourage the next generation of world-class scientists

A beefed-up Office of Science and Technology Policy will help president's new adviser guide Congress in making hard decisions

BY JEFFREY MERVIS

WASHINGTON—Members of Congress have rolled out the welcome mat for Allan Bromley, the president's new science adviser and director of the Office of Science and Technology Policy. But their enthusiastic greeting also has focused attention on the many difficult science-based problems facing the country.

The issues aren't new; among others, they include setting priorities for science, improving science education in elementary and secondary schools, replacing aging university equipment and facilities, restoring the balance between civilian and military research, and translating discoveries into commercial products. And the Bush administration doesn't have any magical answers, especially for those projects that require additional funds. But legislators seem pleased with Bromley's opinions on a range of topics, and they view his arrival as an opportunity for a fresh assault on them.

"It's a real pleasure to have an OSTP director who's not an apolo-

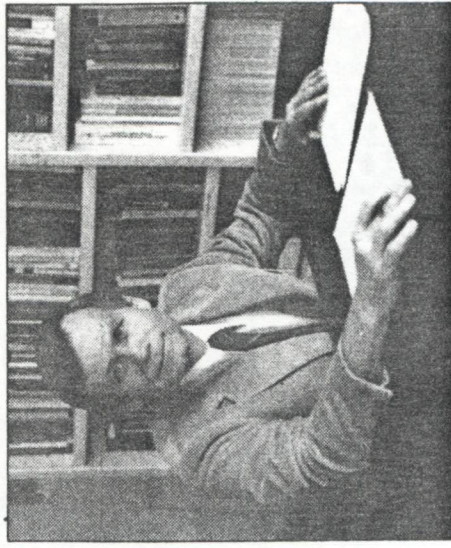
(Continued on Page 24)

human mechanical motions

BY JEFF SEIKEN

Neurologist Frank Wilson's first foray into music came at the age of 12, when he struggled through six months of the universal childhood ritual known as piano lessons. It wasn't until many years later, however, while listening to his daughter rehearse for a piano recital around the time of her own 12th birthday, that his interests in music and the medical sciences converged.

As she played Chopin's "Fantasy Impromptu," Wilson



ABIDING INTEREST: Physicist Italo Tizze's love of music goes back to his childhood.

INSIDE

NEWS

A New Campaign
Twenty years after it was founded, the Union Of Concerned Scientists turns its focus toward environmental issues.

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OPINION

In The Realm Of The Elephant

An interview with self-taught ethologist Cynthia Moss.

Commentary

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Growth Cones

Neurologists intensify work on brain development.

Articles Alert

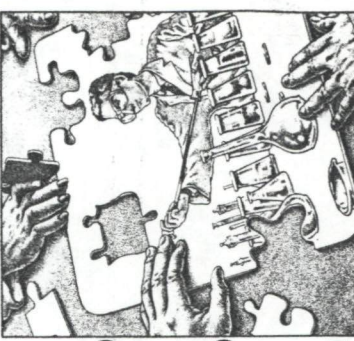
In one of the highlighted

articles, the scanning tunneling microscope aims at DNA.

Hot Papers

A blood scientist explains her highly cited work on interleukin-6.

RESEARCH



PIECES OF THE PUZZLE

PROFESSION

Time Saver

New lab services and software can relieve the scientist from busywork.

Bristol-Myers' Largess

The drug giant offers neuroscientists unrestricted grants.

Mac Science

Apple now offers more than 200 scientific applications.

Europe '92 Offers Little

(Continued from Page 1)

majority of all R&D—public and private—carried out in Europe," Peter Jon de Vos, a State Department science and technology expert, told a congressional hearing on the subject earlier this year. "We believe that will continue to be the case."

The EC's share of basic research is even smaller. What research funding the EC does supply goes mostly for applied science such as semiconductor development and materials research. When it comes to basic science, says NSF analyst Richard Bradshaw, "we're still talking about the fringes of EC funding."

Even when Europe spends its money through the EC, the participants tend to be EC members. (Those members are Britain, France, West Germany, Italy, Greece, Belgium, Denmark, Netherlands, Ireland, Portugal, Spain, and Luxembourg.) And the move toward

a united Europe may strengthen that tendency. As a recent report from the Congressional Research Service notes: "[European integration in 1992] could lead to pressures on each country to look to others in Europe for collaboration in research, at the expense of current or potential collaboration with the United States or other non-EC nations."

That pattern poses a serious problem for U.S. science planners. And there aren't any easy answers. "It's a sensitive issue, and one we don't have a good grip on yet," says NSF's Bradshaw. "The struggle in Europe is about whether science should be funded by the individual countries or by the EC. Do we place our bets on bilateral science, or do we work with the community? These questions are coming at a time when the answer is far from clear."

A look at some of the "big science" projects now under way in the

country, and their message is spreading to environmental activists throughout the continent.

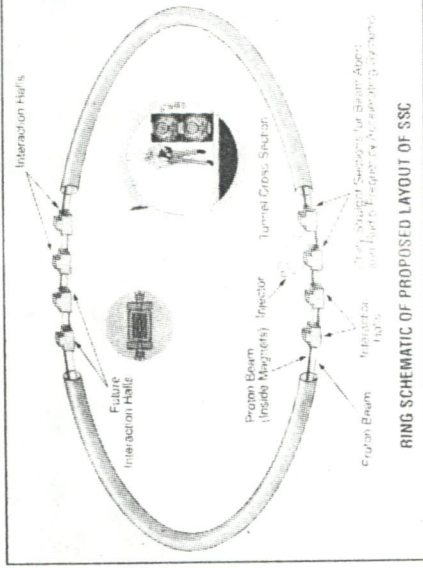
Superconducting Supercollider

DOE officials have stressed repeatedly that international support is essential to the success of their 10-year, \$6 billion effort to build the world's largest particle accelerator. But only one nation—India—has so far committed to the project.

European collaboration was an early goal for Superconducting Supercollider (SSC) planners, who

visited many of the EC nations almost two years ago in an unsuccessful bid for support. But DOE officials delayed further explorations until they received a clear sign from Congress that it would support construction of the gigantic machine. That signal came in last month's appropriations bill, which contained \$225 million for initial

construction. As a result, says James Decker, deputy direc-



RING SCHEMATIC OF PROPOSED LAYOUT OF SSC

completed. This is the case with the SSC and the space station." The official warned that future projects "will have to produce extremely good arguments to get collaboration from Europe."

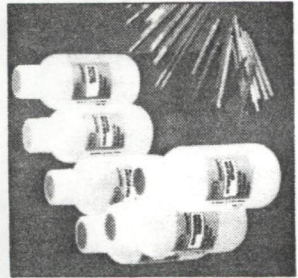
U.S. Policy Emerging

While U.S. planners aren't yet counting on an EC role in big science, they do intend to be ready for the inevitable emergence of an integrated European research community. With that in mind, policymakers in Washington recently assembled two panels to study the EC's impact on U.S. science. One, a task force of the National

ENTREPRENEUR BRIEFS

Cheaper Mouse Embryos?

Stockholders in Transgenic Sciences Inc. are hoping that scientists studying mice will view the firm's first product as a boon. The Worcester, Mass., company says its offering, Cryozyte, will enable researchers to preserve mouse embryos on-site, thus eliminating the need for the bulky and expensive equipment traditionally used for cryopreservation. Before Cryozyte, says James Sherblom, chief executive officer of the two-year-old biotech firm, labs without the cryopreservation apparatus had to send samples to off-site services. Sherblom, an MBA with a background in strategy consulting, projects that each of the approximately 5,000 scientists in the U.S. who work with mice could use between five and 10 Cryozyte kits per year.



The company, whose staff includes 10 scientists, has several more products in the works, all involving molecular biology. Scheduled for launch within the next few months is Protex, an in vitro screen for tumor promoters. Also in the pipeline is Mutox, a mutagen-detecting test, expected to be introduced early next year. Sherblom says the firm has raised about \$5 million for investors, and additional stock offerings are expected to yield another \$15 million over the next few years.

Startup Salivates Over New Product

A new way of obtaining a drug analysis, which in many cases could replace blood and urine samples, is now available. Bioquant Inc., an immunodiagnosics company in Ann Arbor, Mich., has received approval to market SalivaSac, a semipermeable membrane that collects and purifies saliva samples to be used for biological assays. Marilyn Katz-Pek, one of Bioquant's three founders, says the coin-sized product, which a person sucks on for five minutes, could replace urine sampling for illegal drugs, which many people find demeaning; allows at-home testing for therapeutic drugs; and is also better able to provide a sterile, free-drug concentration than blood samples. The potential market includes employers for drug-screening purposes, pharmaceutical companies, hospitals, and law enforcement agencies. She adds that it is "not a cure-all for everything, since people are not used to working with saliva," and it measures only small molecules such as steroids, hormones, cotinine, and some therapeutic drugs and drugs of abuse.

The cost for a single SalivaSac is now \$5, although Katz-Pek says the price may be reduced by the third quarter of 1990, when the product will start being marketed on a larger scale. Bioquant, a private company with 10 employees, was founded in 1985 as a spin-off from the University of Michigan's Reproductive Sciences Program.

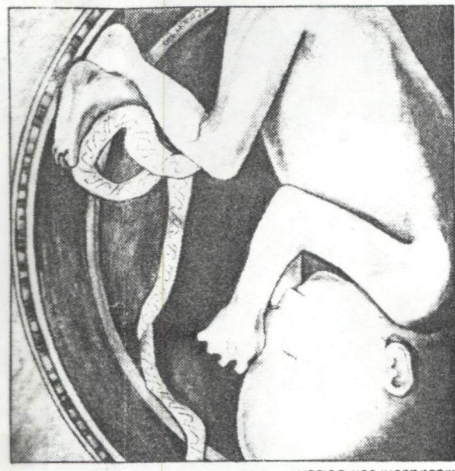


Illustration: Jeff Colson

the largest of which is an \$18 million, three-year British project. The EC will spend \$17 million over the next two years on human genome research, with matching funds from its partners.

Although the EC is likely to play a larger funding role in the future, officials say its more valuable contribution may be to coordinate European genome research funded by individual nations. "The major work of the EC program will be to pull strings," says Peter Pearson, chairman of the EC advisory board for human genome analysis.

Meanwhile, NIH is encouraging informal collaboration between U.S. and European scientists doing work on the same chromosome. "We're encouraged by the fact that the [EC] countries are making money available, but so far it has not been very much money," says Watson's NIH deputy, Elke Jordan. Until a coherent EC policy emerges on human genome research, she says, "we'll have to wait and see" about large collaborations.

One sticking point in any collaboration is the strong opposition from West Germany's Green party to any type of genetic research. The Greens have succeeded in blocking funding for such work in the past within the

James Decker, deputy director of the Office of Energy Research, this month the agency plans to renew its search for European partners.

But so far the EC hasn't encouraged DOE to come calling. "I don't see any discussion with the EC in the near future," says Decker. "High-energy physics hasn't been a big activity" for the Community. He notes that the EC has played a minor role in the operation and use of CERN, the continent's largest accelerator. Given that lack of interest, Decker says DOE will instead focus on bilateral agreements with independent nations.

Space Station

In contrast to other U.S. projects, the National Aeronautics and Space Administration's \$30 billion space platform includes a \$3 billion commitment from the Europeans. That support comes from the European Space Agency (ESA), an organization independent of the EC, but one that, nonetheless, includes nine EC partners.

On the other hand, the collaboration has hardly been a smooth one. In fact, the constant redesigning of the space station, done in response to continuing congressional displeasure over its spiraling cost, may sour future joint efforts. The changes have prompted angry cries from ESA officials, who complain that European interests are being neglected in NASA's struggle to save the project.

The imbroglio has not escaped the attention of EC science planners. "In my opinion, the U.S. has not yet found a suitable way to involve non-U.S. participants early enough in its big-science projects," says one EC official. "It is not enough that you invite them after plans are already

spread cooperation. A similar pact signed with Japan last year, they note, has had little impact so far. "Collaborations always work best on the lowest level," says OSTP's Paul Huray.

As Europe itself wrestles with the shape of its science policy, many observers are maintaining a "wait and see" attitude. Without a clear indication of the magnitude of Europe 1992's impact, planners are finding it difficult to choose sides. Should the next big international science project be planned with individual countries or with the EC? "To the degree that we place our bets one way or the other, it's at the detriment of the other side," warns NSF's Bradshaw.

The EC, meanwhile, has its own worries. As 1992 looms, Europe remains far from economic unity. Since 1985, when the Community first announced its goal, a host of unexpected obstacles have emerged, from infighting over electrical plug standards to Britain's refusal to link its currency to the EC monetary unit. And those disputes take precedence over any talk about scientific collaboration.

"European integration is the alpha and the omega," says one EC official. Intercontinental science, he suggests, will just have to wait. □

PEOPLE

'Hopfield Net' Developer Snared Wright Prize For 1989

John J. Hopfield—neuroscientist, chemist, physicist, and computer scientist—has been selected as the winner of the 1989 Wright Prize for interdisciplinary study in science and engineering from Harvey Mudd College in Claremont, Calif. Hopfield, 56, known for his research on neural networks, received \$20,000 and a bronze sculpture from the college on October 12.

Hopfield currently holds a joint appointment in the departments of chemistry and biology at the California Institute of Technology in Pasadena, where he is the Roscoe G. Dickinson Professor of Biology and Chemistry. He received his Ph.D. from Cornell University in 1958 and for 20 years taught physics, first at the University of California, Berkeley, then at Princeton University, where he was Eugene Higgins Professor of Physics. Since 1980,

Hopfield has taught at Caltech, where he has conducted research on the structure and function of biomolecules, biomolecular information processing, and the relation between brains and computers.

His work on biological and artificial neural networks, which led to the development of the "Hopfield Net," has been influential in both computational neurobiology and the development of neural net algorithms and hardware. Hopfield's artificial neural network is based on the brain's associative memory functions; it has found application in a wide range of disciplines, from biological research to experimentation in computational science.

Hopfield, who is also a member of the technical staff at AT&T Bell Laboratories, has received a number of honors and awards. In 1983, he was awarded the MacArthur Prize



HOPFIELD

Fellowship. He also was honored by the American Physical Society, which awarded him its Buckley Prize in condensed matter physics,

as well as its biological physics prize. Last year, he received the Cleveland-based Case Institute of Technology's Michelson-Morley Award for his contributions "to knowledge and to the well-being of mankind."

In addition, he has served in a number of governmental posts, such as the Solar Photovoltaic Energy Advisory Committee, the Strategic Military Panel of the President's Science Advisory Committee, and the National Aeronautics and Space Administration's "Tycho" study group on the nature of the lunar surface.

The Wright Prize, which has been awarded annually to scientists and engineers over the past nine years, was established at Harvey Mudd College through a gift by **H. Dudley Wright**, a trustee of the college and former industrialist.

Bromley Says OSTP Will Help Congress Make Hard Choices On Science Priorities

(Continued from Page 1)

gist for SDI," said Rep. Sherwood Boehlert (R-N.Y.) in a reference to the hard-line views on the Strategic Defense Initiative harbored by Bromley's predecessors, William Graham and George Keyworth. His comments came as Bromley made his congressional debut as lead witness at an October 3 hearing before the House science research subcommittee. The topic was a recent OSTP report on high-performance computing.

former Yale physicist seemed happy to share his views.

In response to a question from Boehlert on how the federal government should decide what to spend its money on, Bromley admitted that setting priorities "is an easy way to make enemies." He said his preference was for research that strengthens the country's economic position. "The first thing I'd want to know is, 'What's in it for the United States, both in the short-term and the long-term? How will it impact on our economic commitment? Where

erment money that we are spending on science."

On October 2 the White House announced the nominations of two of the four associate directors that Bromley plans to hire. (Graham had one associate director, and a staff of about a dozen, while Bromley hopes to have a staff of 35 in 1990 and as many as 50 in 1991.) James Wyngaarden, who stepped down in July after seven years as director of NIH, would be responsible for issues involving the life sciences, and J. Thomas Ratcliffe, an associate ex-



GAMZU

macaul research division. He was responsible for the worldwide development of several drugs, in-

cluding tacrine (THA), which is used for the treatment of Alzheimer's disease. He received his B.A. in psychology and sociology from Hebrew University and his M.A.

Not Fast Enough

Bromley's carefully chosen words reflect the political nature of the debate on the issue. In the Senate,

Gore jumped to comment from

Graham and George Keyworth. His comments came as Bromley made his congressional debut as lead witness at an October 3 hearing before the House science research subcommittee. The topic was a recent OSTP report on high-performance computing.

Similar praise was heard in late September during two days of hearings in the Senate on science and technology policy in the 1990s that included testimony from three former OSTP directors. Although Bromley did not attend, subcommittee chairman Sen. Al Gore (D-Tenn.) said that the dialogue was meant "to set the stage" for confirmations hearings on the nominations of Bromley's associate directors, as well as to stimulate public debate on scientific issues.

OSTP is a tiny office within a sprawling executive branch. Created by Congress in 1976, its budget was shrunk during the second Reagan administration as Congress expressed its unhappiness over what members saw as its ineffectual and partisan approach to federal science policy. But better days may lie ahead. Last month the Senate added \$970,000 to the \$2.02 million approved earlier by the House to operate the office, and conferees were expected to favor the higher number during negotiations this month. Even the lower House figure, it should be noted, is a \$400,000 increase over 1989 spending.

Bromley's appearance before the House was sufficient excuse for members to go beyond the subject at hand and address how science and technology policy will be shaped in the Bush administration. And the

setting priorities "is an easy way to make enemies." He said his preference was for research that strengthens the country's economic position. "The first thing I'd want to know is, 'What's in it for the United States, both in the short-term and the long-term?' How will it impact on our economic competitiveness? Where does it fit into a coherent picture of

Bromley: "As long as we are guaranteed a level playing field, we can maintain our lead [in high-performance computing]."

what science can do for the U.S.?" But economic strength is more than market share, he pointed out. Acknowledging an academic scientist has a lot to learn from the military-industrial complex in Washington, Bromley said, "I used to think that we could talk about economic competitiveness on the one hand, and national security on the other hand. But I'm learning quickly that you can't separate the two."

Bromley told House members that his first task, once he assembles his senior staff, will be "to present you with a rational basis for making choices. We're going to look at such things as national security, national prestige, and how attractive it is to students [as the next generation of scientists]. The point is to make sure that we get the most from the gov-

one associate director, and a staff of about a dozen, while Bromley hopes to have a staff of 35 in 1990 and as many as 50 in 1991.) James Wyngaarden, who stepped down in July after seven years as director of NIH, would be responsible for issues involving the life sciences, and J. Thomas Ratchford, the associate executive director of the American Association for the Advancement of Science, would handle international affairs and policy. The Senate is expected to confirm both men easily, perhaps as early as the beginning in November. However, Bromley reportedly has had trouble filling the two other posts, one to oversee the physical sciences and one to handle industrial and technology issues.

The last is of vital interest to Congress, and members raised the question of industrial policy at both the House and Senate hearings. Bromley was asked by freshman Rep. Tom Campbell (R-Calif.), a former Stanford economist, how the U.S. should respond to Japanese attempts to dominate such emerging fields as supercomputers and high-definition television. Would it make sense, Campbell wondered, for us to subsidize industry to ensure that U.S. firms could compete internationally, or to ban the sale of foreign products in this country?

Bromley's answer was an unambiguous no. "We still lead the world in high-performance computing," he said, "and I believe that as long as we are guaranteed a level playing field, we can maintain that lead. I would not want us to bar anyone from buying what they want."

What is needed, Bromley said,

trial policy, but rather a partnership between all three sectors. That's got to be one of our highest priorities."

Not Fast Enough

Bromley's carefully chosen words reflect the political nature of the debate on the issue. In the Senate, Gore jumped on a comment from former science adviser Keyworth to press the Democratic position that U.S. high-tech industries need government support to compete internationally. Keyworth told Gore, who is expected to be a 1992 presidential candidate, that the Reagan administration had failed to react quickly enough to the economic realities of the 1980s. "My own experience in OSTP coincided with what I see in retrospect was the beginning of the rapid change, and pressure, caused by the deteriorating U.S. position in world markets," Keyworth stated. "We could have been more aggressive ourselves in venturing into technology policy, but the signals were still pretty mixed. I think those signals are far clearer now, and we ought to be better able to respond."

But Bromley, although he would recognize the need to strengthen the U.S. economy, wouldn't agree that an explicit technology policy is the answer. He told Walgren that he planned to involve industry and academia through a network of advisory panels that would parallel governmental bodies that exist under the Federal Coordinating Committee for Science, Engineering and Technology. Such advisory groups would be part of the new President's Council on Science and Technology, he said, which he predicted would be formed within six weeks. □

maceutical research division. He was responsible for the worldwide development of several drugs, including tacrine (THA), which is used for the treatment of Alzheimer's disease. He received his B.A. in psychology and sociology from Hebrew University in Israel, and his M.A. and Ph.D. in experimental and physiological psychology from the University of Pennsylvania, Philadelphia.

Clemson University has named **Thomas Lacher, Jr.**, as director of its Archbold Tropical Research Center in Dominica, West Indies. The 200 acres of rain forest, which were donated to the South Carolina university last May by Virginia landowner **John Archbold**, will be used as a living laboratory. Lacher will direct research and teaching programs, which will focus on such areas as tropical ecology, conservation, agriculture, and forestry, as well as social issues in developing countries. Lacher, who received his undergraduate and graduate degrees in biological sciences from the University of Pittsburgh, previously taught environmental studies at Western Washington University in Bellingham. He has been working for 14 years in Brazil, teaching and conducting research at the University of Brazil and the Federal University of Minas Gerais, and as a visiting research scientist at the Brazilian National Research Council. He has also assisted in a large-scale survey of mammals in northeastern Brazil, and has studied the behavior and ecology of several species of marmosets and rodents.