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SUBCOMMITTEE MARKS UP NSF APPROPRIATIONS: SCIENCE EDUCATION BIG WINNER *HS*

Appropriators in the House of Representatives have recommended a FY 1991 budget of \$2.337 billion for the National Science Foundation (NSF). The figure represents a 12.2 percent increase from NSF's FY 1990 funding, but it also constitutes a \$46 million cut from the Bush administration's request for the foundation. The House Veterans Affairs, Housing and Urban Development, and Independent Agencies Appropriations Subcommittee, chaired by Rep. Bob Traxler (D-MI), settled on the funding level during a June 12 mark up.

As it has done in recent years, the subcommittee granted science and engineering education the largest percentage increase (39.5 percent, from \$204 million in FY 1990 to \$285 million in FY 1991). This year's NSF strategy of requesting a significant increase for these programs (\$47 million) did not dissuade Congress from further enhancing the increase.

The additional \$34 million above the requested level of \$251 million for science and engineering education will augment requested increases for teacher preparation and enhancement (+\$25 million), informal sources of science education (+\$3 million), and research career development (+\$6 million). The subcommittee's appropriations decisions did not account for the reorganization of NSF education and human resources programs. (See following story.)

The Research and Related Activities appropriation recommendation was \$1.854 billion, an increase of \$111 million from last year or 6.4 percent. (The base from which this increase was calculated was the FY 1990 current spending estimate of \$1.743 billion; the FY 1990 figure includes \$38 million in carry-over funding, used primarily for rebuilding the Greenbank Radio Telescope in West Virginia.)

The research appropriation is \$80 million below NSF's requested increase. (This figure does not include the \$20 million requested for NSF's facilities modernization program, which the subcommittee approved as a separate appropriation line.)

The subcommittee stipulated that reductions from the request should include: \$47 million for the Laser Interferometer Gravitational Wave Observatory, \$5.5 million for relocating NSF headquarters, \$2.5 million from the program development and management account, and a general \$25 million reduction to be applied on a proportional basis across all research programs. It might be noted that \$25 million is the requested level for new Science and Technology Centers (STC). The centers went unfunded last year in the wake of reductions for regular foundation research programs.

In an attempt to attract more senior scientists who "rotate" into the position of program officer at the foundation, the subcommittee lifted the \$95,000 salary cap for these positions.

In addition to its actions on NSF, the subcommittee allocated \$30 million to the Office of Policy

Inside Update . . .

- NSF Science Education Changes Irk Congress and Advisory Committee *HS*
- Paperwork Reduction Act Clears Senate Committee *HS*
- NAS Committee Looks at Scientific Conduct *SB*
- Advisory Council Focuses on NICHD AIDS Program *SB*
- Bush Nominates New Chief for Justice Statistics Bureau *JT*
- APA Names Lipsitt Executive Director for Science *JT*
- Navy Support for Social and Behavioral Science Research *KP*

Development and Research (OPDR) at the Department of Housing and Urban Development (HUD). The panel rejected HUD Secretary Jack Kemp's proposal to transfer \$25 million from HUD programs to OPDR. Kemp had suggested using the money to monitor and evaluate new and existing programs. (See UPDATE, June 1, 1990.) The subcommittee did, however, recommend that the OPDR spend \$8 million on program monitoring and evaluation.

The House panel's actions are the first step in the long process of producing FY 1991 spending levels for government programs. With White House and congressional leaders continuing to meet for budget negotiations, many believe these initial subcommittee numbers may be the year's high-water marks.

NSF SCIENCE EDUCATION CHANGES IRK CONGRESS AND FOUNDATION ADVISORY COMMITTEE

The National Science Foundation (NSF) has encountered resistance to its reorganization of the Science and Engineering Education directorate (SEE) into an Education and Human Resources Directorate (EHR). The restructuring, which was implemented June 4, includes the replacement of current SEE chief Bassam Shakashiri with NSF Senior Science Advisor Luther Williams. (See UPDATE, June 1, 1990.) The move drew criticism last week both in Congress and among members of

CONSORTIUM OF SOCIAL SCIENCE ASSOCIATIONS

Howard J. Silver Executive Director
Stacey E. Beckhardt Government Liaison
Joe Thorndike Staff Associate
Karen E. Carrion Office Manager

Raymond E. Wolfinger President

The Consortium of Social Science Associations represents more than 185,000 American scientists across the full range of the social and behavioral sciences, functioning as a bridge between the research world and the Washington community. Update is published fortnightly. Individual subscriptions are available from COSSA for \$50; institutional subscriptions, \$90; overseas mail, \$90. ISSN 0749-4394. Address all inquiries to COSSA, 1522 K Street, NW, Suite 836, Washington, DC 20005. Phone: (202) 842-3525 Fax: (202) 842-2788

NSF's own advisory committee on Science and Engineering Education.

At a June 7 hearing of the House Science, Research, and Technology Subcommittee, chaired by Rep. Tim Valentine (D-NC), some members attacked NSF Director Erich Bloch for the reorganization. Miffed at NSF's lack of advanced consultation on the SEE shake-up, panel members complained that the reorganization was planned secretly. They also objected to NSF's dismissal of a request from some committee members that the agency delay its restructuring.

Former subcommittee chairman Doug Walgren (D-PA) called the changes "a great step backward" and claimed NSF would "pay a great price" for Shakashiri's removal. The ousted director, according to Walgren, "had the courage to put numbers on the level of effort" required for NSF science education programs.

(Walgren's comment refers to Shakashiri's advocacy of a \$600 million budget for the SEE directorate, considerably more than the budget proposed by the administration and supported by NSF.)

Rep. George Brown (D-CA) asked Bloch whether Shakashiri was being "fired for his effectiveness." Brown prefaced his questions with a call for change in America's academic culture. Universities should abandon the "publish or perish" ethos in favor of an "educate or expire" requirement, he said. Teaching should not be viewed as simply a distraction from research, he added.

Despite unhappiness with the restructuring and Shakashiri's departure, subcommittee members praised Bloch's choice of Williams to head up the new directorate.

Advisory Committee

Bloch offered a passionate defense of the SEE reorganization during a June 11-12 meeting of NSF's Education and Human Resources (EHR) Advisory Committee, formerly the SEE advisory committee. Recognizing the "increased sense of urgency" surrounding America's education problems, Bloch described the emergence of a "different era" in education and human resources at NSF.

Changing conditions, Bloch said, demand changing structures and personnel. The reorganization will strengthen internal coordination of NSF's EHR programs, he contended, and will help the foundation cooperate with other agencies' education programs.

Pointing to the new committee on Education and Human Resources organized within the Federal Coordinating Committee on Science, Engineering and Technology's (FCCSET), Bloch stressed the need to reassert NSF's leadership role in science education efforts.

Bloch praised Shakashiri for his role in expanding the science education directorate since its decimation in 1983. Bloch went on, however, to describe Williams' potential contributions to NSF EHR programs.

Williams is already NSF's representative to the FCCSET education committee, Bloch noted, and currently serves as the new panel's vice-chairman. In conjunction with his other credentials, that position makes Williams, a former president of Atlanta University, the right person to lead NSF's expanded EHR role, Bloch said.

Stronger Coordinating Role

Bloch also noted that Williams has chaired an *ad hoc* group of NSF assistant directors that plans strategy for EHR programs throughout the foundation. Since the new EHR directorate will play a strong coordinating role, Bloch said, Williams' role and the *ad hoc* panel will be formalized.

Transferring the human resources programs from the Scientific, Technological, and International Affairs directorate into the same directorate as the NSF education programs, Bloch continued, will provide more effective leadership in the effort to expand science and engineering opportunities for women, minorities and the disabled.

Bloch also pointed out that the new EHR directorate will have a separate component for policy planning and evaluation. This department would allow NSF to effectively answer the Congress when it asks, as it does every year, whether NSF's science and education programs are doing any good.

Despite Bloch's defense, the advisory committee, chaired by MIT undergraduate education dean Margaret MacVicar, still had reservations. In its formal report to the National Science Board, the panel expressed "grave concern" that Bloch "did not provide an opportunity to review the reorganization ... even though plans for the reorganization had been discussed for a considerable period of time."

Committee members, particularly Florida A&M University President Frederick Humphries, defended Shakashiri and attacked the reorganization in words that echoed Walgren's comments at the House oversight hearing.

David Hamburg, president of the Carnegie Corporation, and Leon Lederman, Nobel Laureate and director emeritus of the FERMILAB, wondered aloud what role an advisory committee can play if it is kept in the dark about important organizational changes that affect policies.

The committee also seemed suspicious of the foundation's commitment to increasing its education activities. Panel members seemed to view NSF as still controlled by "research interests," who would not advocate, as the advisory committee does, a \$600 million budget for NSF's education efforts by FY 1993. (Education activities received \$204 million in FY 1990.)

The committee also voiced unhappiness with NSF's practice of spreading undergraduate education efforts throughout the research directorates. Bloch supports the dispersal.

Williams Makes His Case

In appearing before the advisory panel, new EHR chief Williams tried to assuage the committee's discontent and continuing fears. He stressed his role on the FCCSET committee and described its efforts to develop a government-wide FY 1992 budget for science education and human resource efforts. He also noted the improved cooperation between NSF and the Department of Education, another area where he has led NSF efforts. Williams said he looks forward to increased program evaluation efforts, and he agreed with the committee's admonition that NSF should conduct more research on learning processes.

PAPERWORK REDUCTION ACT CLEARS SENATE COMMITTEE

After months of futile attempts to mark up the reauthorization of the Paperwork Reduction Act (S. 1742), the Senate Governmental Affairs Committee, chaired by Sen. John Glenn (D-OH), finally approved the legislation on June 7. The measure revises the powers of the Office of Information and Regulatory Affairs (OIRA) to impose restrictions on information collection and dissemination by federal agencies and to review regulations. The bill also revises the role and functions of OIRA's statistical office.

Republican senators, who had boycotted earlier mark up attempts, finally allowed the bill to move to the Senate floor. In addition, Sen. Sam Nunn (D-GA), who seeks to protect the small business community from paperwork, and Sen. Jeff Bingaman (D-NM), who as the former chairman of the Subcommittee on Government Information and Regulation is the bill's chief sponsor, reached compromises on their disagreements.

The Government Affairs Ranking Republican William Roth (R-DE) still believes the bill places too many limits on OIRA and is expected to offer amendments on the Senate floor. When the legislation will reach the full Senate, however, is anybody's guess. The chamber faces a crowded legislative calendar, and time before adjournment is rapidly dwindling.

House Actions

In the House, the Committee on Government Operations, chaired by Rep. John Conyers (D-MI), cleared the OIRA reauthorization bill in March. The legislation now seems, however, to be in limbo. An agreement among Conyers, Government Operations Ranking Republican Frank Horton (R-NY), and the White House has apparently fallen apart. The three sides forged an agreement last winter that would have placed restrictions on OIRA's power to review agency regulations. Since Bush had threatened to veto any bill containing such restrictions, the compromise would have incorporated the curbs in a separate "administrative agreement." The deal, however, seems to have fallen through.

OIRA's authorization expired last September, but the agency continues to receive appropriations. (This has happened before.) Frustrated supporters of revising the Paperwork Reduction Act are again, as they did in 1986, muttering about an attempt to de-fund the office for FY 1991. Such a move may be justified, they say, if the reauthorization bill remains stalled into the new fiscal year.

NAS COMMITTEE LOOKS AT SCIENTIFIC CONDUCT

The National Academy of Sciences' Committee on Science, Engineering, and Public Policy (COSEPUP) has beefed up its attention to the conduct of science. On June 7, COSEPUP initiated a seminar series to explore issues surrounding scientific conduct. COSEPUP Study Director Rosemary Chalk and Staff Officer Barry Gold say they hope the series will become a "source of perspective" for a recently launched study on the same topic.

The evolving federal policy for responding to scientific misconduct was the seminar's first topic of discussion. James Wyngaarden, associate director for life sciences within the White House Office of Science and Technology Policy (OSTP), was the key speaker.

A former director of the National Institutes of Health (NIH), Wyngaarden stressed the small size of the misconduct problem. NIH sees roughly 20 "events" per year, he estimated, only about half of which have any substance. In turn, he said, only about half of those with substance are serious. He compared these five serious infractions with a denominator of some 50,000 scientists.

Nonetheless, Wyngaarden advocated a common rule on misconduct that would apply to all government agencies. In fact, he said, OSTP began developing such a rule after the office was approached by the Public Health Service. Wyngaarden said he favors a rule that is not overly prescriptive. Rather, he said, it should simply offer general principles. Existing policy and definitions of misconduct in place at NIH and the National Science Foundation, he noted, will serve as models for developing the regulation.

Deception vs. Honest Error

The rule will likely define misconduct as falsification, fabrication, plagiarism, and "other egregious departures from scientific practice." This last phrase has been the source of some controversy within the academic community, which remains concerned that it could inadvertently include honest error.

Edward Korn, scientific director of the intramural program of the National Heart, Lung, and Blood Institute (NHLBI) and the seminar's invited discussant, suggested that the phrase be replaced with "other practices intended to deceive."

Wyngaarden, who will leave his White House post in July to become foreign secretary of the National Academy of Sciences, said the common rule would clearly specify that error is not misconduct. He also said the rule would delineate the responsibilities of the awardee institution as well as those of the awarding agency. The rules will also strive, Wyngaarden added, for an appropriate balance when providing protection for whistleblowers.

Conduct vs. Misconduct

In response to Wyngaarden's presentation, Korn countered that it would be more productive if the scientific community could reach consensus on scientific conduct, as opposed to misconduct. Heeding his own advice, Korn is leading an NHLBI effort to establish guidelines for its intramural program.

Picking up on themes discussed at the recent Public Health Service workshop on data sharing and management (see UPDATE, May 4, 1990), Korn emphasized that any set of guidelines must be sensitive to disciplinary differences, the role of professional associations, needs for research training, and the evolving "culture" of science.

ADVISORY COUNCIL FOCUSES ON NICHD AIDS PROGRAM

In planning its June 4 meeting, the National Advisory Child Health and Human Development Council had not expected to discuss the role of

social and behavioral science at the National Institute of Child Health and Human Development (NICHD). But in a review of the newly established Pediatric, Adolescent, and Maternal AIDS (PAMA) Branch, NICHD grantee Howard Minkoff, an obstetrician from Kings County Hospital in Brooklyn, gave social and behavioral science a strong endorsement.

Speaking about the effects on birth outcome of HIV infection in pregnant women, Minkoff stressed: "We must look beyond magic bullets to behavior ... As hard scientists, we are sometimes skeptical of behavioral science ... [Yet], understanding behavior is one reason we need to study AIDS."

Minkoff suggested that further research is required to better understand the role of partner variables, psychosocial factors, contraception use, health beliefs, and attitudes towards AIDS.

PAMA was established in July 1988; its staff of six was put in place in the past year. The program has five primary areas of emphasis: epidemiology and the natural history of HIV infection; therapeutic research; pediatric and maternal biomedical HIV-related issues; care, prevention, and treatment for adolescents; and Public Health Service health policy issues.

In addition to PAMA, the council also reviewed the intramural program, which is focused on developmental biology, and the recommendations offered in the recent report by the Institute of Medicine and the National Academy of Sciences on *Developing New Contraceptives: Obstacles and Opportunities*.

BUSH NOMINATES NEW CHIEF FOR JUSTICE STATISTICS BUREAU

President Bush has nominated Steven D. Dillingham to be director of the Bureau of Justice Statistics. If confirmed, Dillingham would succeed Steven R. Schlesinger, who left the bureau in September 1988. Joseph M. Bessette has served as acting director in the interim.

Since 1988, Dillingham has served as deputy director for policy and special programs at the Bureau of Justice Assistance. He has held a wide

variety of government and private sector positions, including jobs at the Energy Department, the White House Office of Personnel Management, and the Senate Judiciary Committee. He also served as assistant professor at the University of South Carolina's College of Criminal Justice.

Dillingham received a B.A. in 1973 from Winthrop College, and holds a J.D. (1976), M.P.A. (1978), and Ph.D. in political science (1987) from the University of South Carolina.

APA NAMES LIPSITT EXECUTIVE DIRECTOR FOR SCIENCE

Noted child psychologist and developmental researcher Lewis P. Lipsitt has been named executive director for science at the American Psychological Association. Lipsitt assumed the post June 1.

A professor of psychology and medical science at Brown University, Lipsitt serves as director of Brown's Child Study Center. He has been a member of the Brown faculty since receiving his Ph.D. from the University of Iowa in 1957.

Lipsitt is editor of the *Brown University Child Behavior and Development Letter*, a newsletter on the problems of children and adolescents. He is also a consultant to a documentary television series, "Childhood," now in production by WNET. Lipsitt has held a wide variety of professional positions, including a stint at the National Institute for Mental Health.

NAVY PROGRAMS PROVIDE SUPPORT FOR SOCIAL AND BEHAVIORAL SCIENCE RESEARCH

UPDATE's four-part series on Defense Department research funding continues this week with a look at Navy-sponsored research in the social and behavioral sciences. COSSA encourages interested readers to contact the relevant program managers for detailed information and application materials.

OFFICE OF NAVAL RESEARCH

Cognitive and Neural Sciences Division - Dr. Willard S. Vaughan, Division Director, Office of Naval Research, 800 N. Quincy St., Arlington, VA 22217-5000. Phone: (202) 696-4505

Programs within the Cognitive and Neural Sciences division support research on human capabilities and performance characteristics. The Navy uses research

results to guide

Defense Department Research Support

personnel

The third of four articles

assess-

ments,

training,

and equipment design. Research within this division seeks to foster more accurate prediction of human performance, as well as to enhance such performance.

The division currently funds approximately \$15 million in basic research, the overwhelming majority of which is conducted through extramural research grants. Program managers welcome proposals within the research areas described below.

Applicants must submit pre-proposals outlining research plans and estimated costs; full proposals are requested of promising applicants.

Cognitive Science - Dr. Susan E. Chipman, Phone: (202) 696-4318; Dr. Charles E. Davis, Phone: (202) 696-4046; and Dr. Theodore A. Metzler, Phone: (202) 696-4044

This program seeks to provide a theoretical basis for human information processing and the nature of acquired knowledge and skill in problem solving. The ultimate goal is to provide a cognitive learning theory on which to base effective training and education, as well as practical personnel testing and assessment.

Perceptual Science - Dr. Harold L. Hawkins, Phone: (202) 696-4323 and Dr. Teresa A. McMullen, Phone: (202) 696-4741

Research in this program examines basic perception modes, including vision, audition, touch and manipulation, multimodal integration, and the control of motor function. Research should foster

enhanced performance in detection, classification, and control tasks.

Neural Science (Biological Intelligence) - Dr. Joel L. Davis, Phone: (202) 696-4744 and Dr. Thomas M. McKenna, Phone: (202) 696-4503

Biological intelligence programs seek better understanding of neural network information processing. Research topics include the organizational principles and operational rules of neural networks, the ability to modify behavior in response to learning and memory, and the role of psychosocial factors in the control of susceptibility to illness.

The biological intelligence program, which examines sub-human primates and marine mammals, seeks to provide a basis for artificial information-processing capabilities.

Mathematical and Physical Sciences Programs Directorate, Mathematical Sciences Division - Dr. Neil L. Gerr, Office Of Naval Research, 800 N. Quincy St., Arlington, VA 22217-5000. Phone: (202) 696-4320

The Mathematical Sciences Division formulates research programs over the broad spectrum of the mathematical sciences. The division has core programs in applied analysis, discrete mathematics, numerical analysis, operations research, probability and statistics, and signal analysis.

The division currently allocates approximately \$2.2 million to probability and statistics research, and \$2.4 million to signal analysis research. Extramural research grants receive approximately 95 percent of this research money.

Probability and Statistics - Dr. Julia Abrahams, Phone: (202) 696-4320

This program supports research on a variety of topics in probability and statistics, including the development of new models for stochastic processes, robust statistical inference and decision, and computational statistics. The main focus in probability research is the development of multiparameter stochastic processes which represent the spatial and temporal evolution of random phenomena.

The complementary goal within the statistics program is the development of inference methods for stochastic processes.

Signal Analysis - Dr. Neil L. Gerr, Phone: (202) 696-4320

This program emphasizes a rigorous mathematical and statistical approach to signal analysis and processing. The goal is to improve surveillance and communications capabilities.

NAVY PERSONNEL RESEARCH AND DEVELOPMENT CENTER - Dr. Charles Bigsby, San Diego, CA 92152. Phone: (619) 553-7811

The Navy Personnel Research and Development Center (NPRDC) conducts human factors research and development. The lab's primary focus is development, and basic research plays a secondary role in the center's operations. Additionally, most basic research is conducted by lab staff, leaving very limited funding for outside researchers.

The center's research agenda derives from specific Navy requests. Current research includes effective manpower recruitment, identification and cultivation of personnel leadership, development of computerized testing, improvement of training techniques, and investigation of organizational techniques.

Research contracts are usually solicited through formal notification in the *Commerce Business Daily*, and proposals are reviewed internally. In recent years, the NPRDC budget has hovered at approximately \$30 million; about one-third of that budget is used for external contracts. The pot for basic social and behavioral science, however, is considerably smaller.

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Society for Research on Adolescence
Society for Research in Child Development
Society for the Scientific Study of Religion
Southern Sociological Society
Southwestern Social Science Association
Speech Communication Association
The Institute for Management Sciences

CONTRIBUTORS

American Council of Learned Societies
American University
Arizona State University
Boston University
University of California, Berkeley
University of California, Los Angeles
University of California, San Diego
University of California, Santa Barbara
Carnegie-Mellon University
Center for Advanced Study in the Behavioral Sciences
University of Chicago
University of Colorado
Cornell Institute for Social and Economic Research
Cornell University
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Yale University

Consortium of Social Science Associations

1522 K Street, NW, Suite 836, Washington, DC 20005
