
CONSORTIUM OF SOCIAL SCIENCE ASSOCIATIONS

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HOUSE SCIENCE COMMITTEE MARKS UP NSF

The House Science, Space, and Technology Committee, chaired by Rep. Robert Roe (D-NJ), marked up the National Science Foundation FY 1988 authorization bill on May 20, 1987. The bill authorizes funding for NSF at the administration requested level of \$1.89 billion. It supports the action of the Science, Research, and Technology Subcommittee to add \$35 million for the Science and Engineering Education Directorate by subtracting \$10 million from the research directorates (including \$3 million from Biological, Behavioral, and Social Sciences) and \$25 million from the Antarctica program (see Update, April 10, 1987).

During debate on an unsuccessful amendment to strike language directing NSF to have one-half of its new Engineering Research Centers selected in FY 1988 devoted to manufacturing engineering, Roe noted that it was his intention to make sure that science agencies emphasize the problems the country is having with the development and use of applied technology. He also made a strong argument for the prerogative of the Congress to "direct agencies" and "set priorities." Roe said the new Task Force on Technology Policy, chaired by Rep. Buddy MacKay (D-FL), will make an in-depth examination of agency policies with regard to applied technology.

Rep. Robert Walker (R-PA) had other problems of applied technology on his mind. He offered, and the Committee accepted, the following amendment: "The Director [of NSF], in cooperation with the National Security Council, shall submit by December 31, 1988 to the House Committee on Science, Space and Technology and the Senate Committee on Labor and Human Resources, a report detailing Soviet efforts to penetrate, compromise and utilize the science research programs of the United States."

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The Consortium 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.

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PURITY AND POLITICS AT THE NATIONAL ACADEMY

On April 28, members of the National Academy of Sciences, at their annual meeting in Washington, elected 59 U.S. scientists to membership. Samuel P. Huntington, professor of government and director of the Center for International Affairs at Harvard, was not among them. For the second year in a row, a substantial but unknown number of the Academy members present at the meeting blocked his election, even though Huntington had been strongly supported throughout the nomination process and pre-election period by a number of social and behavioral scientists in the NAS and had, in the preferential mail ballot to the entire NAS membership, ended well up in the list of the 60 proposed new members permitted to be elected in a given year. [The NAS bylaws permit any nominee to be rejected if one-third of those attending the meeting vote against him or her, regardless of how the entire membership has ranked the nominee on the mail ballot.]

The pre-election campaign for Huntington this year was in part a conscious, precautionary move. In 1986, Huntington's first rejection caused consternation among many Academy members and much of the scholarly community. Huntington is one of the most eminent American political scientists, in the early 1980s was ranked sixth among all living political scientists in citations in the scholarly literature, and is currently president of the American Political Science Association. During the last two years, however, some NAS members mounted a campaign arguing that Huntington was not of Academy stature. Most identifiable have been mathematicians, of whom the most visible has been Yale mathematics professor Serge Lang. Lang is a polemicist on many topics, and proud of it. Lang and some others have argued that some of Huntington's published work contains 'pseudomathematics' and 'nonsense statements.' [Huntington has responded that his use of mathematical terms was a kind of shorthand to express a complex set of relationships among not fully quantifiable variables. Some mathematically sophisticated NAS members, such as Herbert Simon, have backed him up.] The blizzard of memos and photocopies initiated by Lang and added to by foes and friends of Huntington's (see Science, December 5, 1986, for details) also has touched on Huntington's politics: early in the Vietnam War he was a supporter of U.S. policy, and he has accepted research funds from the CIA.

The extended campaign for and against Huntington has also come to involve judgments about the rigor or scientific nature of political science, the social and behavioral sciences generally, the quality of specific instances of survey research, and the like. A University of Chicago chemist, for example, wrote in a private communication later made available to the press, "Any section that nominates poorly qualified candidates lacks either good candidates or good judgment. The proper punishment is to reduce their quota."

It is impossible to know how to weight the various factors in the Huntington case. The campaign has spread widely within and outside the Academy, involving many individuals. NAS rules forbid publicizing electoral procedures. The Academy asked Lang to drop the matter after the 1986 election; he refused. NAS officials report that there is no way the 'quota' for social and behavioral science could be reduced, at least without a major bylaw change that could be ruinous to the Academy. They also point out that social scientists were added in substantial numbers to Academy

membership beginning in the early 1970s in order for the NAS to fulfill its congressionally chartered responsibility (through its operating arm, the National Research Council) to advise the government on matters of science as they bear on public policy. According to one high NAS officer, this process cannot work without the active participation of social scientists, and the Academy would be "crippled" if the social sciences were to be denigrated in the Academy. As George F. Will wrote in the May 7th Washington Post, "...the academy, by the undignified political bigotry that was a component of its action against Huntington, calls into question its fitness, and that of its subordinate organization, the National Research Council, to receive public funds for research projects that result in advice on public policies."

While Academy members are respecting the rule of privacy, those contacted by COSSA seem to agree that the recent Huntington affair is less a groundswell against social science in the Academy than a flare-up of a long-established systemic irritation. In the mid-1970s, long before Lang was a member, an eminent mathematical psychologist was denied membership for a year or two on the grounds that his work was not high-quality 'applied mathematics' (the category in which he was nominated); so far as is known, there were no political overtones. Other controversies over NAS election to membership not involving social or behavioral scientists occur from time to time.

To try to bring clarification, or at least perspective, to this murky matter, the Update has asked two prominent NAS members to comment. Paul A. Samuelson, elected to the Academy in 1970, observes:

"Of the social sciences, only psychology and anthropology were included early in the National Academy. When a few of us economists were elected, it was under some general rubric such as applied mathematics. Then in the 1970s, economics received formal recognition; and, subsequently, separate from it, was formed an explicit category for sociologists, political scientists, and other behavioral scientists -- thus bringing the National Academy into general conformity with such honorary societies as the American Academy of Arts and Sciences, and the American Philosophical Society.

"In universities and organizations that range over many different scholarly disciplines, the principle of competent peer review becomes both important and tricky. Molecular biologists would not want to be taxed with making fine judgments about who constitutes a meritorious demographer -- lest they in turn be subjected to superficial judgments by savants unburdened with knowledge of DNA. Oliver Heaviside tremendously advanced the state of turn-of-the-century electrical engineering, even though the rigor of his demonstrations fell short of what pure mathematicians consider minimal. Lord Kelvin was infinitely superior as a physicist to Charles Darwin, yet Kelvin's deductive denial that the earth was old enough for evolution to have taken place under Darwin's hypotheses is quite rejected by contemporary physics theory with its knowledge of radioactivity.

"Occasional forays by academicians of one sector of knowledge onto the turf of another do no fatal harm and in rare instances might even serve to provide a careful audit. However, it would promote a tragic balkanization of the house of science if the tendency should prevail for overriding the autonomy of each discipline to set and interpret its own standards of excellence. Tolerance advances the cause of science. Like all beautiful flowers, tolerance is a fragile thing which needs to be cherished and nourished."

Herbert A. Simon, elected to the Academy in 1967, has recently published the following commentary.

GIVING THE SOFT SCIENCES A HARD SELL
Herbert A. Simon, special to the Boston Globe, May 3, 1987

Last week's rejection of Harvard University professor Samuel P. Huntington for membership in the National Academy of Sciences has elicited wide public debate. But what we should be thinking about are effective ways of relating the natural and the social sciences -- an issue that is vital not only to the academy but to the nation. In our society, many public policy matters are technical and complex and can be dealt with wisely only if good scientific and technical knowledge is brought to bear on them. I need only mention acid rain, nuclear energy, AIDS, SDI, teen-age pregnancy, creationism vs. evolution, tobacco and cancer, technological unemployment and treatment of mental illness -- culled from an infinitely longer list of topics the National Research Council, the academy's action arm, has considered in recent years.

Of course, we can't turn these matters over to the "experts." Even if the experts knew the answers -- which they often don't -- all important policy issues are as much matters of value as of fact, matters of balancing conflicting goals and interests and of allocating available resources. But if the experts can't decide these questions in a democracy, still we must have their input if we are not to make unnecessary and costly blunders.

A cooperative effort. The knowledge needed to think wisely about these issues does not come exclusively from any single field of science. Physicists and radiation biologists need to be heard on the topic of nuclear energy and disarmament; but scientists who study behavior need to be heard also. Three Mile Island and Chernobyl were not simply physical phenomena; they were examples of human failure under stress. They involved human organization and public reaction to cataclysms quite as much as they involve radiation and its medical consequences. Psychology, political science and sociology are as deeply involved as physics or biology in telling us how to prevent such disasters or deal with them when they occur.

Science is not a body of knowledge, of facts and theory; it is a collection of methods for gathering knowledge, drawing conclusions and testing both against facts. Science is a commitment to disciplining one's thoughts and imaginings with factual evidence. In the last four centuries, that commitment has gradually built up the marvelous picture of the cosmos, of elementary matter, of life, of the human mind and of a society that constitutes the basic science of today. It has also enhanced, and sometimes threatened, human life by constructing powerful technologies based upon scientific knowledge.

Social and behavior science is simply the same commitment to evidence, applied to the behavior of human beings -- of ourselves. Human behavior is observable in many ways and is analyzable by many techniques. It excited the interests of scientists from early times. The first mortality tables were published by John Graunt in 1662, and the first calculations of life annuities by the astronomer Halley in 1693, just seven years after he assisted Newton with the publication of "Principia." Adam Smith published his great book in 1776. Cournot's pathbreaking work on mathematical economics appeared in 1838, a generation before Maxwell wrote out the basic equations of electromagnetism.

It is therefore silly to debate whether social science is possible -- it has existed for 300 years at least. Today, it has tens of thousands of practitioners, committed to the discipline of evidence, about 175 of whom are members of the National Academy of Sciences. As a result of social science research, we know an enormous amount about the human species, ourselves, that early generations did not know. We apply a wide range of social science techniques -- opinion polling, psychological testing, economic analysis, learning theory, operations research -- to an equally wide range of important practical affairs: elections, personnel selection, business cycle management, education and business decision-making.

The number of questions to which social scientists don't know the answers is vast. But science never promises that it has the answers, only that, in trying to find them, it will submit to the discipline of evidence. The questions not answered by the physical and biological sciences are vast, too. When I chaired an academy committee, a few years ago, to advise the Senate on the revision of the Clean Air Act, I found that natural scientists were unable to estimate, within a factor of 100, the magnitude of the health effects of air pollution. All science, natural and social, strives to improve its answers, but only within the limits of the evidence it can produce. We are far from predicting the exact time of thunderstorms in Boston, or of the next earthquake in the San Andreas Fault, or the flutterings of the stock market in New York.

Doubts about social sciences. The value of applying the methods of science to physical and biological phenomena is nearly universally accepted. There is still some controversy about applying these methods to our own behavior. Despite the many facts that scientific research has revealed about the economy, about the workings of our political system and about the processes of the human mind when it is learning or solving problems, some people continue to doubt whether social science does or can exist.

I will not speculate about the origins of those doubts; whatever their source, they have had important social consequences. They led, for example, to severe cuts in social science budgets in the first years of the Reagan administration, cuts that have since been nearly, though not completely, restored. As a consequence, we now have poorer social statistics than we should have to understand what is going on in our society, and the pace of analysis of social phenomena has been somewhat slowed.

Among natural scientists, one can find a wide range of attitudes and beliefs about the social sciences, but a substantial majority of leading natural scientists welcome and support the application of scientific method to understanding human and social phenomena. Until about 15 or 20 years ago, only a small area of social science (mainly physiological psychology and physical anthropology) was represented in the National Academy of Sciences and the National Research Council.

By the decision of the natural science members, the NRC was broadened about 1965 to cover the whole scope of the social sciences, and, about 1970, the structure of the National Academy of Sciences was altered correspondingly. As I mentioned above, the social science membership of NAS has grown to 175, nearly 12 percent of the total NAS membership, a number roughly commensurate with the research PhD production of the several fields of science.

These changes were made for at least three major reasons. First, natural scientists recognized that a substantial body of researchers were applying the fundamental methods of science to human phenomena and striving to advance these methods. Second, associating these researchers with their natural science brethren in the National Academy of Sciences would strengthen their influence in their own disciplines and contribute to improvement in the methods of social science research.

Third, and most important, the National Research Council, required by its charter to advise the federal government, needed to be able to offer advice of the highest scientific quality over the whole range of questions involved in public policy. To provide responsible advice on air quality, economists were needed as well as atmospheric scientists and doctors. To advise on AIDS, the social and psychological factors that determined the spread of infection needed to be understood. To advise on armament policies, the psychology of "deterrents" need to be analyzed, as well as the physics of nuclear explosions.

The social and behavioral sciences are supported solidly in our universities. As we have seen, behavioral sciences have become an integral part of the federal structure for providing scientific and technical advice to government. Their research is funded, though not well or adequately. They face a great challenge to continue to advance, both to give us a deeper and more valid understanding of our own minds, hearts and social structures and to help steer public policies in directions consistent with a realistic knowledge of the world.

As they proceed in their task, the social sciences will continue to encounter skepticism from some quarters. Social scientists will also continue to work in close and cordial cooperation with many colleagues from physical and biological sciences who recognize the essential place they have in the whole picture of science. The best way for them to meet the skepticism they encounter and to justify the confidence their colleagues place in them is to do their work well.

GEOGRAPHER TESTIFIES BEFORE SENATE SUBCOMMITTEE

Jack Dangermond, director of the Environmental Systems Research Institute at Redlands, California, and a specialist in geographic information systems, testified on behalf of COSSA before the Senate HUD-Independent Agencies Appropriations Subcommittee, chaired by Sen. William Proxmire (D-WI), on May 8.

Dangermond, like previous COSSA witnesses (see Update, May 8, 1987), supported the administration's request for an overall 16.5%

increase for the National Science Foundation in FY 1988. He also noted the importance of continued support for social and behavioral science research at the Foundation.

Most of Dangermond's oral testimony focused on the NSF initiative to establish a Center for National Geographic Information and Analysis. This proposed multidisciplinary center would provide greater access to the products of digital remote sensing, geographic information systems, computer cartography, and computer graphics, which will form the basis for major advances in geographical analysis, spatial statistics and expert systems. Dangermond emphasized the urgent need to provide ways of allowing researchers to store and access the mountains of geographical data collected by all levels of government and non-government researchers.

Sen. Frank Lautenberg (D-NJ), presiding in Chairman Proxmire's absence, noted that in his previous life he was the founder and president of Automatic Data Processing, Inc.; thus, he was clearly familiar with and sympathetic to Dangermond's arguments. The Subcommittee is not expected to mark-up the NSF appropriations bill until the summer.

RESEARCH MISMANAGEMENT CONTINUES AT HUMAN SERVICES AGENCY

The latest chapter in the five-year saga of allegations of abuse, mismanagement, and politicization at the Office of Human Development Services (OHDS) was the release in April of the report, "Mismanagement of the Office of Human Development Services: Undermining Programs for Children, the Disabled, and the Elderly." The report was prepared for the Congress by the Human Resources and Intergovernmental Relations Subcommittee (Ted Weiss, D-NY, Chair) of the House Committee on Government Operations.

The brouhaha began in 1982 when critics challenged the handling of the agency's research program by its head, Dorcas R. Hardy. Much media attention was generated in September, 1983, when COSSA charged that OHDS was politicizing the evaluation of proposals and the awarding of grants by approving projects rated by peer reviewers as the lowest of their class. Hardy was also accused of showing favoritism to certain grantees, particularly her former colleagues in California. Both an internal investigation by the HHS Inspector General and a report by the U.S. General Accounting Office in 1984 confirmed that OHDS award procedures were irregular, if not illegal. At the time, OHDS assured the Congress that improvements would be made and full justification would be provided for all projects funded out of peer-reviewed rank order.

In 1986, Rep. Weiss, angered by Hardy's snubbing of his Subcommittee's hearing and OHDS' refusal to spend funds on two child abuse and geriatric programs as directed by the Congress, launched another inquiry into OHDS management. The resulting report documents the continued practice of overriding peer reviewers' recommendations (in some program areas, 1/3 of projects were funded out of order). The report is also critical of the agency's method of bypassing peer review altogether in many cases by selecting certain applications for an in-house administrative review, which greatly improves a project's chance for funding (of 83 child and family welfare projects funded in FY 1985, 21 were administratively reviewed, including 6 with very low scores).

The ongoing problems with OHDS' research program have been a source of consternation for social scientists for several years. One result has been a dramatic decrease in the number of proposals submitted (down 50% from FY 1982 to FY 1985) as researchers become discouraged from investing the time and resources required to develop a proposal with no guarantee of a fair, scientific review. The most serious implication of this situation is, potentially, that an entire field of inquiry is being neglected. As the report states, "Other federal agencies such as the National Institute of Mental Health and the National Institute of Child Health and Human Development have been told that [OHDS] is the major federal program in the areas of child abuse and neglect. As a result, these other agencies support almost no research in the field." Since OHDS supports very little research and evaluation, there is virtually no major federal funding for research in these fields.

CES CELEBRATES 'STANDARDS DAY'

The Center for Education Statistics (CES) of the Office of Educational Research and Improvement (OERI) celebrated its development of a set of codified standards and policies for its operation by presenting a symposium on "Education Statistics in the Twenty-First Century" on May 18, 1987. Emerson Elliott, Director of the CES, noted the adoption of the 21 technical standards by the Advisory Committee on Education Statistics as a response to a recommendation of the National Academy of Sciences panel that evaluated the work of CES.

Ingram Olkin, professor of education at Stanford University and one of three NSF-sponsored American Statistical Association fellows at CES, presented plans for using advanced technology to develop a national education database developed by him and his colleagues, Edward Haertel, professor of education at Stanford University, and Larry Hedges, professor of education at the University of Chicago. Their goal is to establish a system whereby the approximately 16,000 school districts would provide data in a systematized way with agreed-upon definitions to assure accurate national information on education in the United States.

Although members of the NAS panel were impressed by the scope of this ambitious project, some, such as Jack Jennings, Counsel to the House Education and Labor Committee, worried about imposing too much of a burden on local school districts and stressed the need to provide sufficient incentives for them to collect good data. Janet Norwood, Commissioner of the Bureau of Labor Statistics, noted the Department of Labor's concern for accurate data on educational achievement. Chester Finn, Assistant Secretary for OERI, questioned Congress' receptivity to the proposed 54% increase for CES in the FY 1988 budget, which would be needed even to begin the process of implementing the advanced technology project.

HISTORIAN JOINS COSSA STAFF

We are pleased to announce that Simon Cordery, formerly research assistant at the American Historical Association, has been appointed Executive Associate at COSSA. He will assume a number of research, writing, and advocacy responsibilities, and brings additional expertise in the humanities to the COSSA staff. Mr. Cordery holds degrees in history from Northern Illinois University and the University of York (U.K.), and specializes in nineteenth-century British labor history.

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