members announced the nonprofit organization in June 1965. There now are 50 institutional members, representing 167 separate campuses. Interuniversity task forces have been assigned to the study of computerized regional and national educational information processing networks, educational systems and technology, computer-based systems for clinical activities, the copyright problems inherent in the new media, the use of the new information technologies in continuing education, and the use of computers in academic management. Other task forces will also be established.

All information-processing activities in higher education are of concern to EDUCOM, including computational use of computers, computerized programmed instruction, library automation, educational radio and television, computerized cognitive aids, and the use of computers in clinical operations and university administration. Its primary purposes are to organize interuniversity cooperation in these fields, to disseminate reports on the state of educational information technologies, to investigate areas of critical development, and to facilitate useful applications.

References and Notes

1. As of 15 October 1966, EDUCOM consisted of, in addition to charter members, the universities of Akron, Alabama, and Arizona, Polytechnic Institute of Brooklyn, Carnegie Institute of Technology, Cleveland State University, University of Colorado, Dartmouth College, Emory University, University of Florida, Florida State University, Georgia Institute of Technology, universities of Georgia, Indiana, Iowa, and Kansas, Kent State University, Lehigh University, Marquette University, University of Miami, Michigan State University, universities of Minnesota, Missouri, and New Mexico, New York University, University of North Carolina, Northeastern University, Northwestern University, universities of Notre Dame, Oregon, and Pennsylvania, Pennsylvania State University, Purdue, Texas A and M, Tufts and Tulane universities, Washington University, University of Washington, Washington State University, Wayne State University, Western Reserve University, and University of Wisconsin.
2. L. Karel, C. J. Austin, M. M. Cummings, "Computerized bibliographic services for biomedicine," *Science* **148**, 766–772 (1965).
3. P. Atherton, *American Institute of Physics Documentation Research Project* (American Institute of Physics report, New York, April 1965).
4. J. C. R. Licklider, *Libraries of the Future* (M.I.T. Press, Cambridge, 1965).
5. C. F. J. Overhage and R. J. Harman, Eds., *INTREX: Report of a Planning Conference on Information Transfer Experiments* (M.I.T. Press, Cambridge, 1965).

NEWS AND COMMENT

Social Sciences: Where Do They Fit in the Politics of Science?

Social scientists and a growing number of people in Congress and the Administration are beginning to give hard thought to the place of the social sciences in the scheme of social science–government relations. Thus far there seems to be no consensus as to what new institutional arrangements should be created, but the feeling is strong that something should be done. The catalog of problems which intrude upon relations between the social scientists and government is still being compiled. Problems which must appear obvious to many social scientists, however, are those having to do with money, professional independence, and influence and visibility.

The mounting interest of members of Congress in the social sciences is undoubtedly a reflection of the increasing seriousness of such problems as the upheavals in the Negro ghettos, the overwhelming demands on big-city school systems, and the near-chaos in public transportation. The rapid growth of federal support for the social sciences, and of the involvement of social scientists in the work of government, is evident from NSF figures showing that the total federal contribution to research in these fields increased from $35 million in fiscal 1960 to $188 million in fiscal 1966.*

Nothing has done more to alert social scientists and government to the problems inherent in their deepening involvement with one another than the "Camelot" incident. Project Camelot, the long-since canceled U.S. Army–sponsored study of political instability in Latin America and elsewhere, produced, even before it was well launched, a political furor in Chile (*Science*, 10 September 1965). The reverberations of Camelot are still being heard and seem sure to influence the proposals certain to be made in the next few years to safeguard, in appearance as well as in fact, the scholarly independence of government-sponsored research done in the United States and abroad. The echoes from Camelot will be part of the background noise while relations betwen the social scientists and government are being studied.

The National Academy of Sciences is engaged in two major studies. A NAS study chaired by Donald R. Young, visiting professor of sociology at the Rockefeller University, will analyze social science–government relations in a historical perspective. Another study, led by Ernest R. Hilgard, professor of psychology at Stanford, and sponsored by the Social Science Research Council as well as by NAS, will survey the present state of the social sciences, their potentialities for aiding in the solution of national problems, and their requirements for federal support. SSRC participation in the study should enhance its standing among social scientists, for, while the council is not a delegate body, it has close ties to the professional social science associations. Henry W. Reicken, vice president of SSRC, is vice chairman of the study panel. The two studies are only beginning, and 2 years or more may elapse before their results are fully available.

Certain members of Congress are hurrying ahead with their own examination of social science–government relations. Senator Fred R. Harris, an Oklahoma Democrat, plans to hold hearings early next year on his bill, which he and 20 cosponsors introduced on 11 October, to establish a national social science foundation ("NSSF") as a parallel agency to the National Science

* Of the $188 million, the Department of Health, Education, and Welfare provided $72 million; the Department of Agriculture, $29 million; the Office of Economic Opportunity, $26 million; the Department of Commerce, $20 million; NSF, about $16 million; the Department of Defense, nearly $9 million; and the Department of Labor, about $8½ million; the balance was accounted for by a number of smaller social science research programs of other agencies. Support for social psychology, which is not included in the foregoing figures, totaled, in fiscal 1966, more than $87 million, of which HEW provided almost $71 million and DOD about 11^{2}/_{3}$ million.

Foundation and the new National Foundation for the Arts and the Humanities.

The bill is an outgrowth of several days of hearings held, in June and July, by the Government Research Subcommittee, of which Harris is chairman. The hearings, dealing with federally supported social science research overseas, were inspired largely by Camelot. The Camelot affair has suggested to Harris that social science research undertaken abroad on behalf of the national security agencies should be "civilianized." Accordingly, his bill would permit NSSF to serve the Defense Department and other agencies as a "subcontractor" for the sponsorship of unclassified research. In January Harris expects to reintroduce the NSSF bill and to take it up promptly in his subcommittee. These plans are contingent, of course, on Harris's being reelected, but he appears to have a wide lead over his Republican opponent.

In the House, Dante B. Fascell of Florida is sponsoring an NSSF bill, which he introduced in June along with a bill to create an Office of Social Sciences in the Executive Office of the President (parallel to the Office of Science and Technology) and a bill to authorize the holding of a White House conference on the social and the behavioral sciences. As chairman of a Foreign Affairs subcommittee, Fascell, too, has been interested in the problems symbolized by Camelot, but his NSSF bill does not provide for any subcontracting to NSSF of research financed by the national security agencies. Fascell believes that the nice bureaucratic distinction involved in shifting direct sponsorship of a project from the Pentagon to NSSF would be lost on most foreigners.

Fascell is not wedded to his particular proposals and says that his sole purpose in offering them is to stimulate discussion between the government and the academic community. He says that, if the social scientists want to continue "riding the coattails" of the natural scientists, he probably will drop the NSSF idea. NSSF, in his conception, as in Harris's, would not preempt the responsibility of NSF or of any other agency to support social science research. It would provide an additional source of research support. Fascell's NSSF would also provide fellowships. Harris's would not, but it would offer some institutional support.

(The Fascell bills will again be referred to the Education and Labor Committee when reintroduced next year. The committee has given no indication when it will take them up.)

Representative Henry S. Reuss of Wisconsin, chairman of the House Subcommittee on Research and Technical Programs, is undertaking a study of the government's use of social science research in coping with domestic problems. He intends to find out to what extent the social sciences are used in government programs dealing with such problems as crime, poverty, racial discrimination, and the dehumanizing aspects of life in the great cities. The Reuss subcommittee hopes to hold hearings in January or February, with people from government and the academic and professional communities called to testify.

Further indication of congressional interest in the social sciences is found in the proposed amendments to the National Science Foundation Act of 1950. The amendments, prepared by the House Subcommittee on Science, Research, and Development, chaired by Emilio Q. Daddario, include a provision stating explicitly that the "social sciences" are among the fields which NSF is to support.

Support of social science research by NSF totaled almost $16 million in fiscal 1966, but as recently as the late 1950's support for such research was both cautious and skimpy. The NSF act refers specifically to such fields as mathematics, biology, and physics, but, by a vague reference to "other sciences," has made support for the social sciences permissive but not mandatory.

Primitive but Important

The Science and Astronautics Committee, in a report issued after it had approved the amendments to the NSF act, referred to the social sciences as "still relatively primitive" but extremely important to human welfare. It took issue with the "contentions of some" that in seeking federal support the social sciences should look, not to NSF, but to other agencies, and perhaps should find a "niche" in the Foundation for the Arts and Humanities.

"If they [the social sciences] are not 'sciences' according to strict definition, they may nonetheless be approached by scientific methods of research," the committee said. "Their potential value is—in the committee's judgment—perhaps as great as [that of] any of the acknowledged categories of science and technology."

Though basic research would continue to be emphasized, the NSF-act amendments would permit NSF to support applied research in the social sciences as well as in other sciences if it is relevant to important national problems. Also, NSF's authority to support social science research overseas would be broadened. Research now done abroad with NSF support must be justified as in the interest either of the national defense or of American science. The amended act would allow NSF to initiate and support projects intended to further international cooperation if such action were requested by the Secretary of State or the Secretary of Defense.

The NSF-act amendments were approved by the House, but were not taken up in the Senate. Although Daddario will have to reintroduce the amendments in January and start all over, his success this year in obtaining House approval for the amendments should make his task in the new Congress lighter.

Leland J. Haworth, director of NSF, will get a chance next year, during hearings on the NSSF bill, to try to lead Senator Harris to take a more positive view of what his agency can and will do. Harris and his staff man, Steven Ebbin, who has a Ph.D. in political science from Syracuse University, have concluded that NSF is unlikely to become an important source of support for social scientists who want to do research in areas of social change.

They believe that, under present conditions, the social scientist who needs federal support for work in such areas is out of luck unless he is willing to "plead at the cash register" of the very agencies for whom his research may have policy implications. The NSSF contemplated by the Harris bill would be a source of support for any social science research which meets high professional standards.

While NSF has been increasing its support for social science research, the agency has not, on the whole, been particularly venturesome in encouraging investigations of contemporary problems of social change. Why is this so? The question is dismissed by some people with the observation that NSF is concerned largely with the natural sciences and is not inclined to risk congressional reprisals by sponsoring potentially controversial projects in the social sciences. They note that there are men in Congress ready to assail

hapless government administrators suspected of promoting research even vaguely related to social reform.

However, Haworth told *Science* that he wants NSF to become "more aggressively involved in research that would help solve society's problems." At the moment, he said, NSF's ability to undertake this more aggressive role is limited. Its budget, he explained, is "practically static," authority to support applied research is lacking, and some of the most pressing problems require new and as yet undeveloped approaches in which social scientists, natural scientists, and engineers can collaborate.

Nevertheless, Haworth said, NSF is trying to direct attention to some social-problem areas in which action is needed. As an example, he cited plans for NSF representatives to urge people in industry, state and local government, and universities to combine forces against environmental pollution. NSF may support little or none of the research activities which result from these urgings; its role is simply to help identify the problem and to act as a catalyst. By tradition, Haworth noted, NSF generally has been a passive agency that has waited for others to come to it.

Except for some research on government science policy, NSF does not support, and never intends to support, "policy-oriented" research involving direct and explicit appraisals of government programs and policies. On the other hand, it has supported research which, by implication, can have meaning for government policy. The most important example of this is the research being done at the Brookings Institution with an econometric model of the U.S. economy. This research, to which NSF is contributing several hundred thousand dollars a year, obviously may lead to some important conclusions about federal fiscal policy, interest rates, and treasury operations.

Haworth indicated that, as more money becomes available, NSF will help sponsor more large-scale research undertakings with important implications for public policy. But, just as in the past, projects will have to give promise of producing results of general applicability if they are to receive NSF support. Research by an interdisciplinary team studying conditions in a particular urban slum could be supported, Haworth said, provided it was so designed that the results would be of value in coping with slum problems elsewhere.

Senator Harris will be pressing social scientists next year to tell him what new institutional arrangements in Washington they feel are necessary. When Pendleton Herring, president of SSRC, said at Harris's hearing in July that he would not wish to "anticipate" the results of the NAS and SSRC studies, the Senator replied, "You ought to be careful that Congress hasn't lost interest by the time that study is made and it comes around to us."

On the question of creating NSSF, the reactions one gets from social scientists range from strong enthusiasm to skepticism, if not outright opposition. Evron Kirkpatrick, executive director of the American Political Science Association, told *Science* he was strongly in favor of establishing NSSF, though he added that APSA has taken no position on the matter. In his view, the new Foundation would give social scientists something which they can never expect from an NSF run principally by natural scientists—a voice in the upper levels of the administration. The position of director of NSSF would be prestigious, he said, and would attract a noted social scientist.

An "Iffy" Endorsement

Leaders of a number of other social science groups have indicated, however, that they view the NSSF proposals with considerable caution. For Senator Harris's benefit, Herring, of SSRC, drew a long breath and gave the NSSF idea an endorsement which was so "iffy" that it had the ring of opposition. NSSF would be desirable, he indicated, if other agencies did not lose interest in supporting the social sciences; if NSSF did not receive the brunt of criticism for all the various controversies arising from social science activities; if Congress and its key men on appropriations did not refuse to provide generously for the new agency; if the social science disciplines did not squabble among themselves for NSSF's favor; if NSSF could resist naive or overly optimistic research proposals; and if the new agency did not isolate the social sciences from the natural sciences and the humanities. Senator Harris expressed impatience with Herring's skeptical attitude and suggested that, if anybody should be unafraid of change, it is the social scientist.

From the testimony given before the Harris subcommittee and from conversations *Science* has had with social scientists, one may conclude that, whatever the new institutional arrangements are, they are likely to be inadequate unless the attainment of certain goals is advanced.

1) They must give the social sciences a new visibility and influence, not merely through the creation of what could turn out to be only a minor new granting agency, but through giving them a voice in the day-to-day deliberations of important presidential advisers.

2) They must promote understanding of the social sciences among government officials at all levels, perhaps especially through regular use of these disciplines in connection with the new planning, programming, and budgeting methods being instituted throughout the government.

3) They must help to insure that the programs of research support for the social sciences are used boldly for important purposes of government—without the administrators of those programs being exposed to congressional or executive reprisal whenever a research project generates controversy.

4) They must protect the independence of the scholar and encourage forms of research support which will allow university social scientists to concentrate on work of fundamental importance, instead of being swamped with tasks of government-sponsored applied research.

The best solution to the problem of increasing the social sciences' visibility and influence may be to have them well represented as part of the President's existing science advisory apparatus. For example, two or more social scientists could be named to the President's Science Advisory Committee, as Herring has suggested, and perhaps a senior social scientist could be appointed to serve as a principal deputy to Donald Hornig, the President's science adviser and director of OST.

To ignore the already well functioning science advisory establishment and set up a separate social science advisory structure might prove to be a strategic mistake. Much of the influence of PSAC and especially of the Science Adviser, who has close ties with the Bureau of the Budget, stems from the fact that the President looks to them for advice on questions involving major federal expenditures for new technology. The impact of technology on people's lives is such that the social scientist's concern with technology is not less than the natural scientist's. Moreover, many social scientists want nothing done that would discourage

further development of the "interface" between the social and the natural sciences.

A way to encourage research on fundamental problems and to protect the scholarly independence of social scientists is for the government to make large "block" grants of research funds to universities. The university would use the money at its own discretion, though some funds might be earmarked by the granting agency for use in neglected areas of research. Alex Inkeles of Harvard's Center for International Studies has suggested that the operations of the United Kingdom's University Grants Commission be looked to as a model.

Perhaps another major advantage of the block-grant approach would be the fact that it would give NSF, NSSF, or perhaps a U.S. equivalent of the British grants commission some insulation from political reprisal. At least, the granting agency's officials, having fewer decisions to make as to the kind of research to be supported, would be less exposed to attack.

The issues confronting the social scientists in their relations with government are obviously difficult, and do not lend themselves to hasty responses. There is, then, perhaps merit in Representative Fascell's proposal for a White House conference on the social sciences. The American Political Science Association has endorsed the proposal, and certain other associations are said to have done so as well. Preparations for the conference would require a year or more. Thus, those now at work on the NAS- and SSRC-sponsored studies might have time to arrive at some well-considered conclusions as to the new institutional arrangements which relations between the social sciences and government require.

—LUTHER J. CARTER

Unplugging the Muted Trumpet: Senate Says—NIH, Blow Your Horn

"The American people as a whole have no concept at all of what NIH has done."—SENATOR LISTER HILL

"I never knew there was an NIH, or that the federal government sponsored medical research, until I moved to Washington recently."—A WASHINGTON TEACHER

Congress is continually telling executive agencies that they spend too much money and energy in trumpeting their own activities. Congressmen usually regard this effort as an attempt to build up popular support, which is then mobilized to help prevent the budget cutting desired by a frugal legislative branch. Congress often feels bothered enough about such executive self-promotion to place severe financial, and even legal, limitations on the methods by which agencies can publicize their activities.

With this background in mind, it is understandable why Washington observers were somewhat surprised recently to read a Senate Appropriations Committee report which commanded the National Institutes of Health "to undertake a more vigorous and imaginative public information program dedicated to the public understanding of their activities."

This unique injunction must be viewed in the perspective of the favorable attitude of Congress toward NIH. The fact that NIH's appropriations have been rapidly increasing in the last decade is due more to congressional pressure than to ardent concern on the part of the executive. Not only does Congress tend to accept the amounts for NIH requested by the administration, but it often improves on them.

Congress feels able to increase the appropriations allocated for NIH because there are no important lobbies opposed to federal support of biomedical research. All congressmen and their constituents can be afflicted with disease, and congressmen feel that they can "do good" for humanity through ample support of medical research.

But congressmen find it disturbing to vote more than a billion dollars annually to NIH and then find that their constituents have never heard of the institution. The process becomes even more difficult when congressmen are compelled to justify appropriating *more* money than the President requests to subsidize an agency which is relatively unknown to the public. Congressmen believe that the administration itself would be more openhanded with funds if NIH would do a better job of explaining its activities.

NIH director James A. Shannon admits that his agency hasn't done enough in the public information area, even though NIH is well known in the educational and professional fields. One of the main reasons why NIH does not get the publicity it deserves is that it has a long-established policy of letting an NIH grant-holder announce his findings through his own institution. "The fact that the man was working on an NIH grant will probably be omitted in the newspaper stories, even if a line about the NIH is included in the press release put out by the university," explains Jane Stafford, Assistant Chief of NIH's Office of Research Information.

NIH's silence on such discoveries annoys its congressional champions. "NIH is not keeping us informed," said one Senate Appropriations Committee source in an interview. "We'll ask them every year, 'Tell us about your progress' and they won't have anything to say. Then we'll read in a newspaper that Joe Smith of, say, the University of Pittsburgh, has made some discovery. The story won't mention a thing about NIH. Then we'll call up NIH, and they'll tell us, 'Oh, yes, he's been working on an NIH grant for the last 10 years.' Not only should the NIH keep Congress better informed, but they also have a great responsibility to keep John Q. Public better informed."

For several years, Senator Lister Hill (D–Ala.), chairman of the Appropriations subcommittee which approves NIH's funds, has been telling NIH to do more public information work. In the subcommittee's hearings this year, Hill was joined in this request by Senator Norris Cotton (N.H.), the subcommittee's ranking Republican. After expressing their concern in person to Shannon, Hill and his subcommittee