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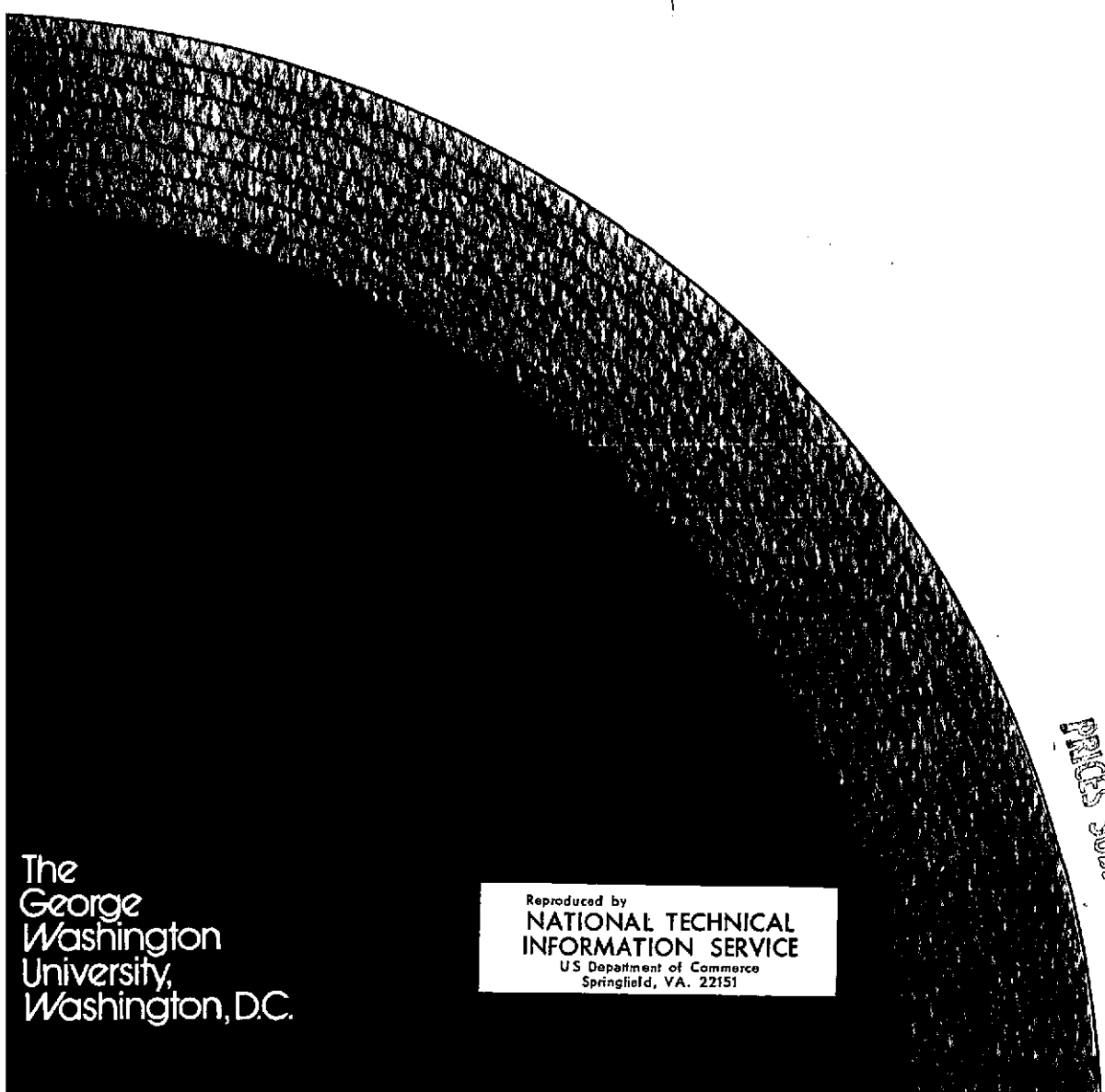
PROGRAM OF POLICY STUDIES IN SCIENCE AND TECHNOLOGY

Seven-Year Review • 1966-1973

(NASA-CR-137374) PROGRAM OF POLICY
STUDIES IN SCIENCE AND TECHNOLOGY Seven
Year Review, 1966 - 1973 (George
Washington Univ.)

N74-20625

CSSL 05A G3/34 Unclas
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Program of Policy Studies in Science and Technology
The George Washington University, Washington, D.C. 20006

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Statement of the Director

The Program of Policy Studies in Science and Technology was established in 1966 with the assistance of a generous institutional grant from the National Aeronautics and Space Administration for the specified purpose of developing a "University policy analysis capability." In the 1968-69 Report the Director of the Program described the interim activities and presented a tentative assessment of the performance of the Program for the first three years. This Statement reviews briefly the activities and operations of the Program with respect to its stated objectives for the seven-year period ending August 31, 1973.

A basic operational assumption of the Program has been that complex social problems usually cannot be properly managed by partial or specialized treatment or by "one-factor fixes." Such problems need to be considered within a context sufficiently comprehensive to identify significant relationships among variables, yet limited enough for adequate analysis. Hence, a major focus of the program was to be on the application of an interdisciplinary, problem-oriented capability to the performance of total social impact evaluations of the consequences of introducing new configurations, technological or otherwise, into future social environments. In turn, it was anticipated that the knowledge and analytical proficiency gained from studies, seminars, proceedings and publications would be converted into instructional materials, teaching techniques, and new curricular designs which could contribute to the strengthening of the University's academic programs.

The primary characteristics of the Program can thus be summarized as follows:

- Emphasis on interdisciplinary, problem-oriented analysis.
- Development of intra- and inter-institutional arrangements for the purpose of analyzing social problems, evaluating existing programs, and assessing the social impacts of prospective policies, programs, and other public actions.
- Focus on methodological approaches to the projection of alternative future social environments, the identification of the effects of the introduction of new policies, programs, or other actions into the social system, and the evaluation of the social impacts of such effects.
- Availability of analytical resources for advisory and research tasks, and provision for use of Program facilities as a neutral forum for the discussion of public issues involving the impact of advancing technology on social value-institutional processes.

A crucial element in the concept of the Program of Policy Studies was and is that its research and analytical efforts be directed to the actual on-going public policy process with special reference to the impact of advancing technology on participants, values, and institutions. The staff, of course, recognizes the need to develop conceptual schemes to serve as the organizing rationales for policy analysis tasks. But the essential mission of

the Program has been to address existing or emerging social problem contexts (whether at the Federal, state, regional, or local levels and whether relating to a particular phase or phases or to all phases of the Policy Formulation/Program Implementation process). In sum, it was not the original objective of the Program, nor has it been our practice, to assume intellectual/analytical tasks which have customarily been carried on by the established departments and professional schools of the University. It has rather been to devise means of assembling the skills representing all relevant disciplines and professions and integrating such skills into an articulated effort for a complete analysis of a particular problem (posited or presented).

Program Activities 1966-1973

The effort of the staff of the Program (PPS) to implement the objectives-characteristics of the Program is reflected in the following recital of activities:

- A problem-oriented, policy analysis capability has been developed and the Program's professional staff has accrued considerable experience in social impact assessments as represented by numerous study reports, seminar proceedings, and professional papers.
- The PPS has maintained a basic core staff of 10-15 professionals which has at times reached a level of 35-40 professionals, including the participation of over 75 GWU faculty members.
- The PPS has usefully applied the talents of over 200 graduate and undergraduate students in the University.
- The PPS has presented over 85 professional seminars, including 16 separate series and 5 special seminars. Participation in these seminars has involved a wide range of representatives of the governmental, industrial, university and R&D communities.
- The PPS has published over 100 monographs, study reports, and books which have been widely distributed by the PPS and through the National Technical Information Service to interested scholars, policy analysis groups, Federal, state and local governmental entities, and governmental offices and private policy analysis organizations throughout the world.
- Members of the PPS staff have been invited as principal speakers for numerous Congressional hearings, professional association meetings, and various inter-

national conferences on topics involving science, technology, and public policy.

- The PPS provided a substantial part of the initial funding and has co-sponsored with the School of Public and International Affairs the Master's Degree Program in Science, Technology, and Public Policy. Over 60 students have participated in this academic, research and colloquia program in the past three years.
- The publications of the PPS have been used by numerous universities in their courses in the area of science and public policy and the Program regularly receives requests for assistance in the development of new courses or for the arrangement of meetings or for advice on policy analysis studies from individuals and groups in the U.S. and various foreign countries.
- The PPS has received in excess of 60 specific grants and contracts over the past 7 years.

Program Operations

An interdisciplinary, problem-oriented approach to the analysis of public programs, projects, or other actions need not be considered to exist or not exist. There are various degrees of interaction which might be associated with given analytical efforts as well as varying combinations of skills and experience which might be utilized in a given effort. Policy analyses, including anticipatory project assessments, are not ordinarily performed or not performed; they are performed with varying degrees of adequacy or inadequacy. Within any given policy analysis group, some efforts will invariably be performed with a higher degree of proficiency than others for a variety of reasons, i.e., internal or external conditions and constraints.

Our experience over the past seven years has demonstrated that an interdisciplinary, problem-oriented approach to policy analysis may assume innumerable dimensions and forms. While a viable policy analysis program should have a basic core professional group of 12 to 15 for purposes of consulting on new proposals and reviewing projects in progress, it does appear that a readily available professional staff of approximately 20 would be optimum for a university-based policy analysis group such as we have attempted to develop. An extremely cooperative attitude by many members of the University faculty, who are not regularly associated with the Program, has served to provide a reservoir of professional knowledge and advice upon which the staff

has frequently drawn to extend its analytical resources.

One obvious outcome of our experience has been recognition of the need to tailor carefully the interdisciplinary group effort to the specific project. Those skills relevant to the project objective must be assembled. Our various projects have required a wide range of professional skill combinations. Certain projects have been broadly conceived and have required a full spectrum of skills, as, for example, the study on the Social Impacts of Future Civil Aviation Systems, an effort involving over 30 professionals and graduate students from a wide variety of disciplines and professions. The study staff on Laws and Regulatory Schemes for Environmental Noise Regulation was constituted primarily of lawyers, law students, and political scientists. But a follow-on study on Aircraft/Airport Noise Abatement Alternatives required a much broader professional representation including lawyers, land use managers, regional developers, community relations specialists, economists, aeronautical engineers, and those experienced in aircraft/airport operations. In brief, every policy analysis effort does not require the full staff of professionals who might be associated with a policy analysis group.

One of the disappointments of our experience has been the lack of success in gaining funding for several ambitious proposals which involved broad participation by faculty members in the University and, in certain instances, intensive efforts by professionals from other policy research organizations. In this sense, much of our interdisciplinary effort has come to naught. But even this experience has produced some benefits in gaining cooperative action and new insights from representatives of the various disciplines.

The program staff has found most of its work to be intellectually demanding, some exceedingly so. While good quality work usually requires time for in-depth research, analysis and reflection, we have also found that in most instances of "quick response" tasks, we have been able to perform a satisfactory analysis. Clearly, however, there is a limit to what can be done adequately under severe time constraints.

Changing Conditions Affecting Program Activities

The original concept of the Program envisaged the assembly of a broad range of disciplines and professions to address problems relating to the impact of advancing technology on social processes. But as noted above, the oper-

ational context of social problem analysis requires a particular mix of skills for each specific project. This factor poses difficulties for keeping all members of a broad interdisciplinary staff continuously and usefully engaged. A resulting tendency is for those temporarily unoccupied with a program project to pursue special interests of their own. This potential distraction from a total problem analysis orientation toward particular areas of social problem interest, and specialized treatment of even these particular areas, becomes difficult to counteract unless there is either a continuing flow of problems to the organization which require the participation of the full staff or provision for continuity of funding for the staff to posit its own inquiries is otherwise provided. Indeed, full or essentially full dependence on grant and contract funding for new projects almost inevitably results in the development of specialized interests by staff members in order to take advantage of opportunities to match interests with available funding. Hence, organizational sub-groups having specialized analytical capabilities evolve. This centrifugal force can present a difficult problem of containment if the basic structure of a total social impact analytical capability is to be maintained.

As a result of constantly increasing and now substantially full reliance on grant and contract funds for operational support, the Program has found it necessary to accommodate to this integration v. fragmentation tension.

The structure of the Program has changed in recent years to take advantage of new research and analysis opportunities. The consequence has been the establishment of a variety of identifiable sub-groups within the Program, as for example:

- The *Technology Assessment Group*, devoted primarily to studies in the area of science, technology, and public policy (Coates)
- The *Educational Policy Group*, devoted to both domestic and foreign country educational policy issues (Margolin)
- The *National Advisory Council on Supplementary Centers and Services*, devoted to reviewing and evaluating Title III of the Elementary and Secondary Education Act of 1965 and reporting its findings to the President and the Congress (Kluempke)
- The *Innovation, Information and Analysis Project* supported by NSF, devoted to developing a comprehensive body of literature on technological innovation and pro-

viding related analytical support services (Tennant)

- The *Master's Degree Program in Science, Technology, and Public Policy* having academic association with the School of Public and International Affairs and research and colloquia association with the PPS (Logsdon)

The fragmentation of an interdisciplinary program staff into specialized sub-groups has not meant that continuing interaction of the full Program staff is no longer feasible. A useful level of control can still be maintained in terms of ability to assemble a relevant group of skills for purposes of proposal preparation or of project performance. It might be emphasized that the level of capability of a policy analysis group should be judged not only by an ability to perform certain types of policy analysis adequately but by the capability to assemble relevant skills for special projects or other purposes. The Program of Policy Studies has relied almost entirely on unsolicited proposals rather than upon responses to Requests for Proposals.

It is evident from previous comments that the Program has necessarily made an organizational response to external conditions including shifting subject matter interest of Federal agencies and sources and types of funding available to university-based policy analysis groups. Our Program organization has changed through time from a staff supported almost entirely from an institutional grant to a staff of sub-groups organized to deal with particular patterns of policy analysis tasks. Under this arrangement it is now incumbent upon each "group" to select its areas of prime interest, to prepare proposals and pursue funding efforts to support its activities, to assume responsibility for administrative tasks associated with its efforts, to arrange for necessary staff appointments, and to perform adequately the projects undertaken.

As noted, there are certain difficulties in this arrangement for the maintenance of intensive interaction within an interdisciplinary professional staff which is essential as a resource base for problem-oriented research. But there are also advantages in this arrangement. First, since the various "groups" share the same physical space, consultation and discussion are facilitated and various combinations of professionals can be assembled to consider new proposals or other policy analysis actions with trifling inconvenience. Second, the decentralization of effort with the sub-group structure assists with the determination of analysis missions, distributes, yet locates,

responsibility for particular actions, encourages initiative by a larger segment of the Program staff, and tends to generate quality control mechanisms within each "group."

One of the major difficulties confronting a program which must rely heavily upon grant and contract support is the limited ability to plan ahead. This in turn means that the involvement of desired faculty members is sometimes difficult to arrange since departmental or school commitments have frequently been made prior to the date a project becomes effective. Most faculty members of The George Washington University have been quite cooperative in assisting the Program staff in proposal preparation and project performance when their availability has permitted. An increasing number of faculty members tend to be interested in problem-oriented and action research. While the interdisciplinary approach remains to some extent at odds with the traditional university organizational structure, it is clearly consistent with a social problem focus. If a core group of capable and interested professionals can gain a limited degree of momentum, then the policy analysis function has a good chance of maintaining an effective level of effort even when adjusting to the constraints necessarily imposed by the university administrative/operational structure.

The Evolving Policy Analysis Function

Assembling professional skills to perform social problem analysis for purposes of introducing the resulting outcomes into the public policy process is a very different task from that of the conventional academic function of producing and disseminating knowledge. Policy analysis involves the production of outcomes which are designed to clarify policy options and intended to have some impact upon socio-political decision making. One implication of this observation is that those involved in the policy analysis function should properly be judged by a somewhat different set of professional performance criteria than those customarily applied to the university faculty member. A combination of organizational skills and intellectual talents which differs appreciably from the normal demands made of either university faculty members or administrators is required of policy analysis principals. Hence, the question persists as to whether universities are appropriate loci for such efforts, or if some universities may be but most are not, or what other types of existing non-university or new institutional arrangements can better serve the objective of converting available knowledge and analytical resources into useful inputs to the public decision process. Assuming the availability

of the basic resources for a policy analysis effort, it is likely that each particular institution, university or other, will necessarily need to tailor its effort to the special conditions (opportunities and constraints) of its socio/institutional context.

It is certainly not our contention that all policy analysis should have a university base nor that every university should have a social problem-oriented research group. It is a matter of the perceived mission and resource availability of the particular university. We have found the Program's work both to be intellectually challenging and to require the development of organizational/analytical skills which are not often taught or utilized in the normal educational process. The critical difference is that the policy analysis function is ordinarily related to existing or projected social problem contexts requiring the assessment of alternative project configurations for the solution or alleviation of an unsatisfactory social condition. This task is a stimulating experience; it is also hard work. It should be recognized that there is a good deal of "cost" (professional effort as well as financial) attached to the operations of a policy analysis program. Such costs must be weighed against the prospective benefits to students, faculty, professional groups, and public service needs in evaluating the net benefit of such an activity to the particular university.

At The George Washington University we perceive a definite, if gradual, recognition of the need for activities in some manner related to the policy analysis function. New stimulus has been given to interdepartmental and interdisciplinary efforts through the Division of Experimental Programs. The various continuing professional activities in the educational and health policy fields carried on by the Institute for Educational Leadership seem a reliable index of the need for more systematic attention to the public policy process by universities in position to perform such functions. The location of the new American Bar Association Center for Administrative Justice at the University is still another component of a growing institutional development at The George Washington University which, along with the Program of Policy Studies and the Master's Degree Program in Science, Technology and Public Policy, could evolve into a substantial University effort in research and continuing professional education having a direct relationship to the public policy process.

It is perhaps apposite also to comment that the establishment and maintenance of a policy analysis capability concerns and depends

upon an effective interaction among all the participants and entities involved in the public decision process. However much the Congress or the Federal departments and agencies might need analytical support with such tasks as the preparation of NEPA §102(2) (C) statements or with special proposed projects, if the responsible officials in such agencies do not perceive the need or do not have the resources to engage the services of policy analysis groups, then the latter surely cannot develop a continuously improving analytical capability. The universities can be expected to develop useful policy analysis capabilities, only to the extent that they are encouraged to do so. On the other hand, the sponsor-consumer has both the right and duty to demand adequate performance.

Many indices point to a definite trend in interest and activity which may reasonably be categorized as "policy analysis." Academic interest is manifested in the rapid growth of professional periodicals and association meetings devoted to the general area of social problem-oriented analysis over the past few years. Much recent Federal and State legislation gives heavy emphasis to a wide range of environmental factors which pertain to "human" as well as to "natural" environmental quality. This means that the public sector agencies now have statutory mandates to consider new proposals for programs, projects, and actions in far broader terms than heretofore required. Further, many Federal departments and agencies now have offices of policy or of planning which provide added stimulation to the policy analysis function. And the Office of Technology Assessment, now established as a future-oriented analytical arm of the Congress, should provide a major focus for a growing policy analysis interest.

Future Directions

It is anticipated that the continued focus of the Program's activities will be directed to analytical tasks involving the impact of advancing technology on societal institutional-processes. Attention will continue to be given to the basic Program objective of assembling interdisciplinary groups to perform future-oriented studies of the social impact of proposed programs, projects, and other public actions.

The Program staff has developed a number of different *methodological approaches* to the projection of alternative future social environments, the identification of the effects of new technological interventions into future social environments, and the evaluation of the social impacts of such effects. The competence of the staff in the application of these method-

ologies has reached a relatively high level and it is expected to continuously improve. Further, the experience gained by the professional staff in the numerous studies performed has equipped us to deal with a wide variety of *topical areas*, including: environmental impacts of major social-functional systems such as transportation, housing, solid waste management, etc.; legal/policy/economic conditions affecting the R&D and technological innovation processes; application of communications media to community services in both industrialized and developing nations; urban/regional land use planning including the application of Earth Resources Satellite data for such purposes; development and appraisal of regulatory schemes and mechanisms for the control of environmental noise; educational technology policy; Federal/State/Local governmental interactions in the regulation of new technological interventions; citizen participation in the evaluation of proposed technological projects, and so forth. The Program staff intends to continue its strong involvement in the technology assessment function.

It is also the intent of the Program staff to continue its *seminar series* on matters relating to technology assessment and other methodologies and activities involving the interaction of advancing technology and social process. Our *publications series* will also be continued but probably on a more limited level. We do plan to hold a continuing series of seminars on the evolving functions of the Office of Technology Assessment and to publish a series of papers on this activity.

The Program's activities over the past seven years have clearly served to identify and maintain a loose community of professionals in both public and private sector organizations who share common interests in the impact of science and technology on public policy. The Program's activities have supported new academic innovations in the University and have provided an opportunity for numerous faculty members and students to engage in analytical activities which have contributed to their professional interests and competence.

As noted, the continuing activities of the Program will depend largely upon the opportunities offered by sponsoring agencies for funded research, seminars, conferences and other events. In this regard, we continue to be optimistic. One further comment seems quite appropriate in this brief report, namely, the critical importance of the NASA "institutional support" funding which enabled the Program to generate the momentum for a sustained effort. Having observed the rise and fre-

quent demise of many other university-based, problem-oriented groups over the past several years, it is difficult to see how such programs could reasonably have been expected to become viable, on-going operations without substantial initial funding—in addition to other requisite conditions such as an interested professional capability and a favorable university environment. The NASA grant not only provided this Program with the ability to establish a fairly broad interdisciplinary policy analysis capability but supported our publication series and professional seminars which have been effective means for establishing Program visibility and recognition. For this funding support and the continuing interest of both past and present members of the NASA staff we are indeed grateful.

Advisory Committee

Lloyd H. Elliott, *Chairman*
President, The George Washington University

Bernard A. Schriever, *Vice Chairman*
Chairman of the Board, Schriever & McKee, Inc.,
Washington, D. C.

Harold F. Bright
Provost and Vice President for Academic Affairs
The George Washington University

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Dean, The Graduate School of Arts and Sciences
The George Washington University

Joseph L. Fisher
President, Resources for the Future, Inc.,
Washington, D. C.

Lawrence Levy
President, Interprise, Inc., Framingham, Mass.

Dwight Waldo
Albert Schweitzer Professor in the Humanities,
Syracuse University

Reuben E. Wood
Professor of Chemistry,
The George Washington University

Background and Organization

Policy analysis is one essential means of coping with the needs of a complex, dynamic, and demanding society. Policy analysis is indispensable both for the effective treatment of existing social problem areas and the performance of future-oriented studies of alternative means of achieving select or provisional social goals. Complex social problems cannot be properly managed by partial, specialized, or arbitrary means. One-factor fixes seldom work. Social problems must be considered within a context sufficiently comprehensive to identify significant relationships, yet limited enough for adequate analysis. Analyses in turn, to be useful to policy makers and affected public participants, must include precise, realistic presentations of options, strategies for implementation, and probable outcomes in terms of effects on participants, social values, and institutions.

Policy Analysis at the George Washington University

It is from this perspective that the Program of Policy Studies in Science and Technology has developed a special capability for policy analysis. The focus of the Program on science and technology has resulted in the creation of various methodologies for conducting *total social impact evaluations* of technological applications. These concepts and skills are generally applicable to the policy formulation and program evaluation phases of the ongoing public decision process. The knowledge and analytical proficiency gained from research projects are converted into teaching materials

and new curricular designs which contribute to the strengthening of the University's academic programs. These mutually supporting functions are achieved through studies, seminars, and publications distributed as a public service.

Program Resources

Essential resources for effective policy analysis include location, institutional setting, facilities, and professional skills. The location of The George Washington University places it in easily accessible reach of the Congress and most Executive Departments and Agencies of the Federal Establishment. The Program of Policy Studies is a University-level entity responsible directly to the President of the University. The Program has close working relationships with all major Professional Schools and other components of the University including the library and data processing services. The Program draws upon a broad range of professions and disciplines:

- Public Administration
- Public Law
- Political Science
- International Affairs
- Sociology
- Economics
- Educational Psychology
- Business Administration
- Urban & Regional Development
- Land Use Management
- Operations Research
- Cybernetic Systems
- Medical & Biological Sciences
- Engineering and Applied Science

Organization

As the Program evolved in recent years, the structure has changed to take advantage of new research and analysis opportunities. Thus the following sub-groups within the Program have been established:

EDUCATIONAL POLICY GROUP

In 1966, a special group within the Program was established for the study and development of programs in formal and non-formal education. This center, the Educational Policy Group, is engaged in a multiple approach to education in the United States and in the technologically developing nations of the world, including:

- a) the process of policy development in education;
- b) the assessment of the effects of new educational technologies and their potential for society and the individual;
- c) the development of new strategies for the application of communication technology to education in many nations;
- d) educational program development;
- e) the study of improved methods of educational innovation, as well as techniques for dissemination and utilization of educational methods and materials;
- f) study of the effects of learning settings, materials and their interaction on the process of education;
- g) the development of method and practice for facilitating the cooperation of educational problem solvers from various disciplines and cultures in cooperative endeavors.

The foci of educational activities are diverse. They include approaches both within and out of schools; the particularized demands of rural, as well as urban education; the special areas of basic education, preschool programs and learning by the physically, emotionally or mentally handicapped; adult and adolescent vocational training.

From its inception, the Educational Policy Group has been intensively involved in the applications of the communication technologies not only to formal education, but also to education in related fields (e.g. nutrition, family planning, public health), and in devising strategies for the organizations and systems involved in their delivery. Studies include applications of various communication media from computers to satellites, CATV to the tape recorder, as well as filmstrips and picture-dominated printed materials.

Critical communication technology issues that have been confronted include: which media to select for what purpose; which media for what audience; how broadcast media can be utilized while tailoring programs to local and individual learning needs; how to develop modules to allow for optimal program mix; how to

develop modules for broad use while allowing cultural adaptations; how to shift content over time to keep abreast of changing conditions and audiences. Legal, sociological, economic and behavioral-motivational issues are confronted, as well as those directly associated with the educational process.

The EPG is a multidisciplinary organization with capabilities in education, economics, political science, international affairs, management, several areas of engineering, linguistics and system design. Its R&D activity has been directed by a combination of defining sound objectives and creative conceptualization. This approach tailors research and program design to the real needs of the problem and its solution, rather than being geared to disciplinary principles or boundaries. The several disciplinary areas are integrated in the pursuit of sound and holistic solutions and alternatives.

Over the years, members of various disciplines have learned to cooperate in the application of effective methods for solving problems. Instead of remaining specialists in a conventional discipline, staff members have become expert in need assessment, the diffusion of innovation, facilitation of utilization, and evaluation and policy development. These have been applied to the development of communication systems, to many areas of education including basic and informal education, to family planning, to new town and urban program development, etc. The EPG approach has been innovative and is generally based on the development of new methodology as well as on advanced system design. Through this system design, a wedding is being undertaken of the capabilities of the communication media (hardware and software) with the now broadening field of educational research. Fundamental to this marriage is a more complete understanding of applications of the behavioral and social sciences to individual and social development and the many aspects of learning.

During the past five years, the following major projects have been completed:

- "Education in the '70's—a study in educational technology"
- "The Dissemination of Audio-visual Materials in American Education."
- "Strategies for the Use of Mass Communications Media in the Technologically Developing Nations."

Strategies were developed for utilizing communications media to bring family planning, basic education, and nutrition education programs to the rural and urban poor. General principles and programs were developed in

the fields of family planning, nutrition, and basic education and were then applied more specifically to Colombia, the Republic of Zaire, and Indonesia. The product includes consultation strategies designed for the process of cooperative work between nations, as well as programs, training and evaluation strategies.

- "Social and Behavioral Science Development in Higher Education" (Consultation to the American Institute for Research and to the Universidad Nacional Pedro Enriques, Dominican Republic).
- "Civil Aviation 1970-1985: Behavioral and Sociological Factors"
- "CATV—Systems and Audiences"
- "Alternatives for the Application of Communication Technology to the Educational Needs of the Democratic Republic of the Congo." A combined USAID—UNESCO mission requested by the government of Congo-Kinshasa.
- A Market Analysis of American Education.
- "Survey and Evaluation of the Usefulness of Picture Booklets for Family Planning Education Among the Poor in Rural and Urban Colombia."
- "Implementation Plan for a Colombian Rural Family Planning Training Center and Field Network: Information, Motivation, Communication and Distribution."
- "A Plan for Extending Family Planning Capabilities in El Salvador through the Application of Strategies for Utilizing Communications Media to Improve the Training of Personnel."
- "The Decentralized and Continuous On-the-job Training of Field Workers in Indonesia—a Near-Peer Teaching and Small Communications Technology Approach."
- "Primary Prevention in Health Care Assisted by Communications Media: A Program for the El Salvador Social Security Institute."
- "Improving Family Planning Communications through Strategies for Using Educational Technology"—a plan for the University of Costa Rica Latin American Training Program.
- "Computers in the Classroom" was published in September 1970.
- A second volume, devoted to educational technology systems and the dissemination and utilization of educational technology materials is in preparation under the auspices of the Ford Foundation.

Joseph B. Margolin, Ph.D., is Group Director
Marion R. Misch is Deputy Director.

INNOVATION INFORMATION AND ANALYSIS PROJECT

The Project began in early 1973 with the receipt of the first grant of the National Science Foundation's National Research and Development Assessment Program (RDA), which was created in August 1972 largely because of the increasingly urgent need to examine Federal support of civilian research and development efforts and to assess policies and programs designed to stimulate the rate and direction of technological innovation. The major objective of the Project (IIAP) is to build a coherent system for collecting, analyzing, and disseminating information on innovation. This includes looking into such Government policy areas as tax incentives, subsidies, trade, pertinent laws, patents, and regulation as well as the social and economic implications of innovation and the nature of the innovation process. In addition, the Project plans to provide special analytical, communicative, and educational services to its clients.

With no broad-gauged management of innovation information in existence, the need for IIAP is clear. The aim is to search and synthesize information from present sources by utilizing their services and complementing their efforts. During this operation an analytical capability will be developed which can assist in numerous ways including identification of the most relevant and significant existent literature and gaps to be filled.

Since its formation the Project has directed all of its activities toward the needs of RDA. In the near future, IIAP will begin to expand its information and analytical services to meet the needs of other people and organizations for the cost of the service.

The Project is currently able to identify and abstract articles, research reports, books, conference reports, and related materials on technological innovation. The field, its literature, and attendant management problems have never before been brought together in a concerted, comprehensive manner. Initial efforts included determining:

- those journals, periodicals, indexing/abstracting services, bibliographies, conference proceedings, books, and report literature containing relevant information;
- the optimal way of extracting information from these sources;
- the types of abstracting methods to be used; and
- how information about articles not abstracted should be disseminated.

Although many of the end products will continue to be oriented toward meeting the direct needs of RDA, a major purpose of the Project, strongly supported by the National Science Foundation, is to ensure that IIAP and its products will be of maximum use to other clients.

Acquisition lists and abstracts are being supplied to the Foundation on a regular basis. Other interested parties may receive copies of these and other products and services, on a cost-reimbursement basis according to the provisions of the initiating grant from the Foundation. It is anticipated that the IIAP Newsletter will be available free of charge for the immediate future.

As IIAP establishes and demonstrates the effectiveness of its information services, it will begin to expand its scope and magnitude of effort. Some of the activities may include:

- distributing information products (bibliographies, abstracts, etc.) tailored to the individual needs of the clients;
- achieving the capability to work with government agencies and the private sector to assist in the evaluation of a particular policy or program directed to stimulate innovation;
- providing a periodic journal or monograph series on evaluations of policy assessment, special reports and studies on assessments and annual reports on trend analysis;
- documenting legislation, executive orders, and regulatory actions that have created and modified major governmental policies and programs to stimulate or control the nature and rate of technological innovation;
- sponsoring and cosponsoring seminars, special meetings, conferences and short term instructional courses and workshops; and
- collecting a manpower or biographical file of those who are professionally involved with many of the problems associated with the innovation process.

Wesley L. Tennant, Senior Staff Scientist, is Project Manager.

Judith C. Russell is Chief Information Specialist.

GRADUATE PROGRAM IN SCIENCE, TECHNOLOGY AND PUBLIC POLICY

The graduate program in science, technology, and public policy was established in September, 1970 to provide a focused educational complement to the other activities of the Program. The graduate program, which is co-sponsored by the university's School of Public and International Affairs, is one of the few in the nation to offer a master's degree specifically in science, technology and public policy. It is currently the largest such program (in terms of students seeking a degree) in existence. Fifty-three students have enrolled in the program to date, and in addition a number of doctoral candidates have made science policy a particular focus of their course work and dissertation research. Eight students had received their master's degree as of September 1, 1973.

The primary objective of the graduate program is the training of individuals able to understand the public policy issues posed by science and technology and to act upon that understanding. To that end, the program draws upon the total resources of the university, both in terms of faculty and courses and in terms of research capabilities, in permitting its students to develop multidisciplinary programs of study tailored to their interests and needs.

Students who complete the degree program are qualified for research and administrative positions related to science and technology policy, particularly with government agencies. Students from the program now hold positions with the National Science Foundation, the Environmental Protection Agency, the Science Policy Research Division of the Library of Congress, the Department of State and the United Nations. Also, many of the students in the program already hold jobs in related policy areas with such agencies as NASA, the military services, congressional offices, and COMSAT; these students bring a practitioner's viewpoint to the program as they carry on their own studies.

As part of the program's activities, several courses have been added to the university's offerings on topics such as "Government, Science, and Technology," "Technology Assessment and Public Policy," "Science, Technology and World Order," and "The Economics of Technological Change." These courses are taken by a wide variety of graduate students other than the program's degree candidates. The program's faculty is also involved in undergraduate teaching related to science and technology policy.

The program is directed by John Logsdon, Associate Professor of Political Science and Public Affairs. Other faculty members associated with the program include its deputy director, Henry Nau, Assistant Professor of Political Science and International Affairs; George Eads, Associate Professor of Economics; and Stephen Chitwood, Associate Professor of Public Administration. At its inception the program was directed by John Hanessian, formerly Associate Professor of International Affairs. Dean Burton Sapin of the School of Public and International Affairs is responsible for overall direction of the academic elements of the program.

Faculty members associated with the program are also involved in research efforts in which the program's students frequently act as research assistants. Among these research activities are:

- a study of the decision-making process with respect to post-Apollo space policy (Logsdon);
- an examination of changing national priorities and public policy for science and technology (Logsdon);
- a book on "International Technology and National Politics," focusing on nuclear technology programs (Nau).

The program sponsored a series of seminars during 1972-1973 on "U.S. National Goals and Technological Strategy." These seminars brought together members of the Washington policy community, faculty and research staff of the university, and the program's graduate students to discuss presentations by a series of eminent speakers.

The program's research, seminar, and curriculum development activities were supported by a grant of \$116,900 awarded in July, 1972 from the National Science Foundation.

NATIONAL ADVISORY COUNCIL ON SUPPLEMENTARY CENTERS AND SERVICES

The National Advisory Council on Supplementary Centers and Services consists of twelve members appointed by the President of the United States under provisions of the Elementary and Secondary Education Act. The responsibilities of the Council as mandated by the Act are to review the administration of Title III, to evaluate programs and projects carried out under Title III, and to report annually to the President and the Congress on its findings.

Title III provides federal funds to local education agencies for innovative programs and projects designed to meet locally identified educational needs. More than one thousand projects in all areas of the elementary and secondary curriculum are currently operating in all parts of the United States and its territories.

The National Advisory Council meets some five times a year to review the operation of Title III and to set policy for Council activities. The Council maintains an office and staff in the Program of Policy Studies of The George Washington University for the purpose of carrying out its activities.

Each fiscal year since 1968, the Council has prepared and submitted to Congress and the President an annual report which makes recommendations concerning the legislation and the administration of Title III. Since 1970, the Council has published a monthly newsletter designed to inform the Title III community of national developments affecting education and of the activities of Title III projects and state administrators. The newsletter has a distribution of 3000 copies.

The Council also prepares and publishes *Quarterly* publications in magazine format, each reviewing and listing Title III projects in a specific curriculum area. Beginning with a Spring, 1972, issue, these have been:

"Title III in Environmental Education"

"Title III in Preschool Education"

"Title III and the World of Work"

"Title III in Guidance and Counseling"

"Title III and Changing Educational
Designs"

The Summer, 1973, issue, "Title III and Cultural Diversity," reviews projects in bilingual education and ethnic studies. The Fall, 1973, *Quarterly* is devoted to Title III projects in educational administration and management.

The Winter, 1973, issue is on "Title III in the Arts."

In addition to the newsletter and the *Quarterlies*, the Council prepares occasional background research papers, prepares and presents testimony relative to Title III in Congressional hearings, and represents Title III in various national, regional, and state meetings of educational groups.

The staff is as follows:

Gerald J. Kluempke, Executive Director

Virginia Robinson, Research Associate

Gail Gross, Secretary

As of January 1974 the Council's new location is 425 Thirteenth St., N.W., Suite 529, Washington, D. C. 20004 (Tel. 963-3813).

TECHNOLOGY ASSESSMENT GROUP

Technology Assessment has been a major focus of The Program of Policy Studies since its inception in 1966. Much of the Program's work during the first years under the NASA Institutional Grant consisted of theoretical, methodological, institutional, and historical studies of Technology Assessment.

Dr. Mayo and other members of the staff provided analysis and advice to Congressional Committee staffs planning for what has become the Congressional Office of Technology Assessment, testified at Congressional Hearings, and participated in and made presentations before numerous academic and professional meetings concerned with Technology Assessment. The Program has held some 80 seminars on the subject, attended by several hundred government officials, academic personnel, and members of the research and policy analysis community. A large number of Program publications dealing with technology assessment have contributed to the technology assessment literature widely used in the U.S. and abroad.

One of the earliest major technology assessments, performed by the Program, was a study of Social Impacts of Civil Aviation, a part of the DOT-NASA Civil Aviation Research and Development Policy Project (CARD) in 1969. More recently Technology Assessment efforts have been given organizational focus in the Technology Assessment Group. The objectives of the Group are:

- To assist Federal agencies, State and local governments, and the private sector in planning, organizing, and carrying out technology assessment by providing an interdisciplinary university-based capability experienced in assessment and policy analysis;
- to contribute to the further development of technology assessment methodology, to understanding of the institutional and legal aspects of technology assessment, and to knowledge of the results and impacts of technology assessment;
- to make such contributions available to decisionmakers, to the academic and professional community, and to the public through presentations, articles, and sponsorship or participation in conferences and workshops on technology assessment;
- to involve students in performance of technology assessment, and to contribute to their professional training and to cur-

riculum development in the university and elsewhere; and

- to develop useful Program publications in the area of technology assessment.

The Technology Assessment Group has undertaken a range of assessments of which the following are examples:

- "Technology and Public Policy: The Process of Technology Assessment in the Federal Government." An analytical survey of assessment activities and techniques in 110 Federal offices. (NSF)
- "Technology Assessment of Solid Waste Management Practices." An assessment of solid waste management and its institutional problems in the City of Baltimore, Maryland. (NSF)
- "Quick-Response Survey of Technology Assessment Candidates and Priorities." A survey by questionnaires and interviews of Federal officials to determine candidate technologies for future assessment. (NSF)
- "Implications of Soviet Marine Expansion." Assessment of recent developments in sea-power of the U.S.S.R. (ONR)
- "Plan for Local Community Participation in Measurement of Environmental Noise." A sub-contract to Bolt, Beranek, and Newman, Inc., to participate in developing plans for a National survey of environmental noise. (EPA)
- "Alternative Future Life-Styles: Their Implications for Future Energy Demand." (Ford Foundation Energy Policy Project)
- Revitalization of Small Communities: Transportation Options." (DOT)
- "Normative Systems Analysis." An assessment of the potential of normative analysis with regard to rationale and technical conduct of comprehensive approaches to urban studies (HEW/NIMH)
- "Evaluation of Guidelines and Noise Related Environmental Impact Statements." Analysis of treatment of environmental noise in Environmental Impact Statements submitted by Federal Agencies under the National Environmental Policy Act (EPA).
- "An Integrated Strategy for Aircraft/Airport Noise Abatement." Analysis of legal/institutional considerations in implementation of EPA responsibility under Section 7 of the Noise Control Act of 1972 (EPA).

- “Federal, State, and Local Mechanisms for Control of Environmental Noise.” A survey and analysis of existing laws, policies, and institutional arrangements for abatement and control of noise at all levels of government (EPA).

The Technology Assessment Group includes specialists in Political Science, Law, Public Policy, Urban and Regional Planning, Economics, Community Development, and Transportation Regulation. It works closely with other Groups within the Program on a wide variety of research areas and projects.

Emphasis in Technology Assessment Group projects is on futures research, social impact analysis, and analysis of public policy options. Vary T. Coates, Ph.D., is Head of the Technology Assessment Group.

Completed and Ongoing Studies

These studies are listed in chronological order of starting date. Funding source is shown in brackets after title of each project.

	Title/Sponsor	Staff
1. 1966 September (36 months) Aug. 1969	<p>Organizational Conflicts of Interest in Government Contracting (NASA)</p> <p>A report containing an analysis and evaluation of the facts developed in the study and conclusions on (a) the effectiveness of the policy and regulations under which NASA operates and the application thereof, and (b) the desirability to effect changes, modifications or implementation to any policy, rule, or regulation dealing with organizational conflicts of interest in government contracting, together with recommendations as to remedial action to be taken.</p>	<p><i>Principal Investigator</i> John Cibinic, Jr.</p> <p><i>Research and Support Staff</i> Malinda Clark Gilbert Ginsburg Arthur Miller Ralph Nash Susan Prager</p> <p><i>Student Researchers</i> Richard Kempaner Jesse Laskin William C. Wolfe</p>
2. 1966 September (36 months) Aug. 1969	<p>Program in Law, Science and Technology in the Graduate School of Law (NASA)</p> <p>To establish a Law, Science and Technology Institute at The George Washington University, to include:</p> <ul style="list-style-type: none"> • Establishment of a selected LL.M. program in Law, Science and Technology; • Development of several new courses including: <ul style="list-style-type: none"> a. The impact of scientific concepts on legal-policy decision process; b. Inter-governmental aspects of technological progress; c. Legal protection against technological risk; d. International institutional arrangements devoted to the peaceful uses of science and technology • Conduct of public conferences and professional seminars; • A graduate fellowship program. 	<p><i>Principal Investigator</i> Harold P. Green</p> <p><i>Student Researcher</i> Michael J. Wollan</p> <p><i>Lecturers</i> Jack Oppenheimer Herbert Tenzer Peter Wyckoff</p>

	Title/Sponsor	Staff
<p>3. 1967 February (9 months) Oct. 1967</p>	<p>Education in the Seventies—A Study of Educational Technology (HEW/OE)</p> <p>A study and description of model school systems of the next decade, utilizing computer-assisted instruction (CAI). To bring to bear the experience, thought, and creativity of a wide range of educators, scientists, and administrators in the service of developing model educational systems in the 1970s in which CAI and related technology play a significant role, the participants were conducted on a traveling seminar designed to expose them to the state-of-the-art in CAI. They then prepared reports on their reactions, developing their impressions of education in the 70s.</p>	<p><i>Principal Investigator</i> Joseph B. Margolin</p> <p><i>Research and Support Staff</i> Barbara V. Higgins Christine McLean Marion Misch Mary Moxness Susanne Thevenet</p> <p><i>Consultants</i> Ray C. Carpenter Don A. Cook Frederick Duhl Russell Kropp Gary Larsen Judith Leitner Hylan Lewis Eugene McDonald Phyllis McDonald Eugene P. McLorne Wesley C. Meierhenny Alexander Schure Charles B. Thomsen Elizabeth C. Wilson</p>
<p>4. 1967 May (51 months) July 1971</p>	<p>Technological Innovation Policy (National Bureau of Standards & US Arms Control and Disarmament Agency)</p> <p>This project is devoted to enhancing understanding of the processes of technological innovation in society as an aid to policy makers. The first phase produced a conceptual systems model. The second phase applies the systems model as an aid in appraising existing and proposed public policy regarding technological innovation. The emphasis is on policies, designed to foster technological innovation in the civilian sector of the economy, which are responsive to the needs of society. Within this framework the project focuses on the problems of converting scientific and technical resources from defense-related research, development, and engineering to civilian, socially-oriented programs and projects.</p>	<p><i>Principal Investigator</i> Ellis Mottur</p> <p><i>Research and Support Staff</i> Roxanna Johnson Pamela Lucas Carolyn Vetter</p>
<p>5. 1967 June (11 months) Apr. 1968</p>	<p>Preparation and Evaluation of a Series of Papers for Presentation to the Commission on Marine Science Engineering and Resources (COMSER)</p> <p>This project includes three separate but concurrent tasks. Task A consisted of a review of published studies on the organization of Federal programs in science and technology. Task B consisted of a review of civil and military interests in and responsibilities for advancing new technologies, with particular reference to the development of a national marine science program. Task C consisted of a review of the interests of the public and private sector in advancing new technologies, and of the means for bridging these interests and for facilitating the transfer of technology.</p>	<p><i>Principal Investigator</i> Clarence Danhof</p> <p><i>Research and Support Staff</i> Pamela Rugg</p> <p><i>Consultants</i> Fred Brown Stephen Chitwood Enid Schoettle</p>

COMPLETED AND ONGOING STUDIES

	Title/Sponsor	Staff
6. 1968 June (16 months) Sep. 1969	<p>Evaluative Mechanisms for the Public Experimental Program of the National Endowment for the Humanities (National Endowment for the Humanities)</p> <p>To explore alternative evaluation models to be developed for and tested within the Experimental Regional Grants Program of the National Endowment for the Humanities.</p> <p>The Experimental Regional Grants Program provides small experimental grants to various types of institutions in different parts of the country to conduct a variety of humanities-related activities on a regional and local level. To provide policy guidance for future programs, each experimental activity must be documented and assessed. The alternative evaluation models approach will utilize varying measurement techniques and should enhance understanding of each experimental project. More importantly, the results should provide insights to the complex questions of the evaluation and measurement of public supported social action programs in the humanities.</p>	<p><i>Principal Investigators</i> Guy Black James Mahoney</p> <p><i>Research and Support Staff</i> Linda Rosenthal Patricia Tangas Mary Helen Whalen</p> <p><i>Consultants</i> Marie Bestul Susan Klaus Juanita Wallach David Weeks Isaac Welt Geraldine Woodridge</p>
7. 1968 June (21 months) Feb. 1970	<p>Dissemination of Audiovisual Materials in American Education (HEW/OE)</p> <p>The basic objectives of this project are: (a) to develop methods for improving the dissemination of, and the effectiveness of information about, the availability of government-sponsored, non-written materials; (b) to develop alternative methods for increasing the effective distribution of government-sponsored nonprint materials.</p>	<p><i>Principal Investigator</i> Joseph B. Margolin</p> <p><i>Research and Support Staff</i> Helen Ajay Clarence H. Danhof James E. Mahoney Phyllis McDonald Barbara Merrill Marion Misch Margaret Moss Nan Motolinsky Diane Pierce Linda Taylor</p> <p><i>Student Researchers</i> Kathryn Hensley Jenny Johnson Mary Elizabeth McIlvane Isolde Weinberg</p>
8. 1969 July (18 months) Dec. 1970	<p>Behavioral Systems Approach to the Prevention and Control of Delinquency and Crime (Justice/LEAA)</p> <p>The current operations of our urban institutional complex composed of schools, police, courts and corrections, utilize procedures that amplify conditions of deviant and criminal behavior. In relating public institutional actions associated with the processing of juveniles through the juvenile control system, an analytic model was utilized, guided by a general systems approach. The District of Columbia institutional network was studied for this purpose. The Juvenile Control System (schools, police, courts, juvenile correctional institutions) was described consistent with the theoretical approach developed. Administrative data was employed to demonstrate the nature of breakdown of social control within the general system. Manifestations of this breakdown occurred at fairly early points (grades 3-6) and it was during this same period that the use of drugs was found to be employed in controlling certain youths.</p>	<p><i>Principal Investigator</i> Joseph L. Tropea</p> <p><i>Research and Support Staff</i> Thomas Burns Charlotte Kuenen John Mahoney</p> <p><i>Student Researchers</i> Susan Ames Bernard Grochmal E. D. Marwick Margaret Raskin James Thomas</p>

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| 9.
1969 June
(15 months)
Aug. 1970 | <p>Trends in Western European Political, Economic, and Defense Policies, 1969-1985, and Implications for U.S. Security and Strategy (Battelle)</p> <p>To delineate the major policy threads of the 1945-1968 period, focusing on the outlook from Western Europe, taking into account the peripheral interests and influences of the Soviet Union and the United States.</p> | <p><i>Principal Investigator</i>
John Hanessian</p> <p><i>Research and Support Staff</i>
Clarence Danhof
Stuart Greenberg
Barbara Higgins
Robert Jordan
Margo von Kaenel
John Logsdon
Susan Papadopoulos</p> <p><i>Student Researchers</i>
Thomas Bolle
Susan Croft
William Kallon
Norma Katelvero
Jeffery Lennard
Diane Moore
Leleta Naugle
Neil Seldman
Meredith Spencer
Janice Udell
Christine Young</p> <p><i>Consultant</i>
Katherine Warden</p> |
| 10.
1970 February
(13 months)
Feb. 1971 | <p>Study of Private-Federal Research and Development Relationships (NSF)</p> <p>To complete the analysis of data collected in 1965-7 from industrial research and development laboratories in three industries, for the purpose of determining the impact on the performance of research and development by those laboratories from involvement with the federal government.</p> | <p><i>Principal Investigator</i>
Guy Black</p> <p><i>Research and Support Staff</i>
Betsy Amin-Arsala
Susan Doscher
Eileen Sussman</p> |
| 11.
1970 February
(15 months)
Apr. 1971 | <p>A National Criminal Justice Reference System (Justice/LEAA)</p> <p>A two-phase research effort, (i) to identify appropriate user groups, isolate their most critical reference needs, and develop an outline-type design of a dissemination system which will fill some of the most immediate needs; and</p> <p>(ii) assuming the development of an active dissemination program by the Law Enforcement Assistance Administration, assessment mechanisms were developed to measure utility of the services as they expanded. More detailed user needs studies were performed using the indepth techniques of information flow and decisional analysis. In addition, exploration was made of ways to educate potential users in the benefits to be derived from using information.</p> <p>The model for an information reference system recommended in the final report of this study was the basis for a system now being used and national in scope, and which is broadening into international application.</p> | <p><i>Principal Investigators</i>
James E. Mahoney
David Weeks</p> <p><i>Research and Support Staff</i>
Linda Rosenthal
Patricia Tangas
Mary Helen Whalen</p> <p><i>Consultants</i>
Marie Bestul
Susan Klaus
Juanita Wallach
Isaac Welt
Geraldine Wooldridge</p> |

COMPLETED AND ONGOING STUDIES

	Title/Sponsor	Staff
12. 1970 April (16 months) July 1971	<p>Social Impacts of Civil Aviation and Implications for R&D Policy (NASA/DOT)</p> <p>This study was to identify social impacts, both beneficial and detrimental, which would or could flow from introduction of advanced civil aviation systems. This future-oriented technology assessment was performed by an inter-disciplinary team of social scientists, natural scientists, and engineers, and a broad range of social impact areas was investigated which included economic, environmental, political, sociological, psychological, legal, and urban/regional developmental factors. In keeping with the fundamentally inter-disciplinary nature of such a study, the results are presented primarily in their finally integrated form rather than as a compilation of separate disciplinary inputs.</p>	<p><i>Principal Investigator</i> Louis H. Mayo</p> <p><i>Research and Support Staff</i> Betsy Amin-Arsala Marie Beaconsfield Karen Bell Penny Blum James M. Brown Vary T. Coates Clarence H. Danhof Susan Doscher Richard F. Ericson Joseph Foa Kathryn Hensley Mary Holman Jacquelyn Howard Raphael Kasper Susan Klaus Eva Maestas James E. Mahoney Joseph B. Margolin Phyllis McDonald Marion R. Misch Jean Ruffin Henry Solomon Theodore Suranyi-Unger Linda Taylor Mary Helen Whalen Geraldine Wooldridge</p> <p><i>Student Researchers</i> Margaret Chan Ruth Cooperman Kirk Dublin William Fischer Phillip Graham Stuart Greenberg Dee Ann Houston Stephen Lingenfelter Michael Smith Marion Stirling Edward Studholme Frederick Wood</p> <p><i>Consultants</i> Joseph D. Blatt George Brankey Richard Myrick Manen Olson, Jr. Howard Reese Robert C. Richardson Stephen G. Saltzman Richard E. Tiller</p>
13. 1970 April (26 months) May 1972	<p>Dissemination and Utilization of Educational Technology Materials (Ford Foundation)</p> <p>To prepare for publication data collected for a report to the U.S. Office of Education on the "Analysis of the Need for and Feasibility of More Effective Distribution of Government Supported Non-Written Material." Since the data collected far exceeded the objectives of the contract, and the findings are of value to education, this book will provide an understanding and some clarification of 1) the dynamics of the dissemination process in education, 2) the role of non-book media in education, and 3) educational technology systems management.</p>	<p><i>Principal Investigator</i> Joseph B. Margolin</p> <p><i>Research and Support Staff</i> Karen Bell Kathryn L. Hensley Phyllis McDonald Marion R. Misch</p>

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| 14.
1970 June
(16 months)
Sep. 1971 | <p>Homeowner's Title Registration Corporation:
A Program to Reduce the Land-Related Costs of
Housing (HUD)</p> <p>To present a system of land acquisition and use which is designed to significantly reduce the cost of land in residential building costs; to make the real property transfer from one owner to another easier, quicker and less costly; to attract mortgage funds from contract thrift institutions regardless of the fluctuations of the general financing market; and to permit those government subsidies that are involved to be made in the form of investments, carrying at least a sound potential for eventual recoupment of the subsidies.</p> <p>Finally, while the system incorporates as a basic concept the leasing of land for residential purposes rather than the traditional ownership of land, it is designed to keep the fee ownership in the private hands of a neighborhood or community, with individual parcel occupants acquiring a stockholder-type participation in the land asset as a component element in their purchase of a use of the land. For all practical considerations, the purchased use will provide the same functions now available to the individual through acquisition of a fee title, while eliminating some of the detrimental aspects of a fee holding.</p> | <p><i>Principal Investigator</i>
James M. Brown</p> <p><i>Research and Support Staff</i>
Judith Bowen
John Fredland
Ozella Gissendanner
Audrey Hassanein
Bebita Reasoner</p> <p><i>Student Researchers</i>
John Davidson, Jr.
Harvey Meltzer
Tai Wook Rhee
Aaron Silberman
Gregory Tassey
Fred Wolf, III</p> <p><i>Consultants</i>
Wm. J. Poorvu
G. Daniel Prigmore</p> |
| 15.
1970 July
(36 months)
June 1973 | <p>Technology Assessment Implementation Project
(NSF)</p> <p>A study to place some effort on the understanding of the implementation process as opposed to the performance of technology assessment, since the value to society of any technology assessment depends upon the ways in which its results are used. The objective of the project was to describe the process of assessment implementation as it now exists and to develop new and potentially valuable concepts and proposals for future research. In order to initiate discussion among academic, industrial, and governmental personnel about the technology implementation process, a professional seminar series of eight seminars gathered individuals from a wide range of disciplinary and institutional backgrounds to explore various aspects of the subject.</p> | <p><i>Principal Investigators</i>
Elliis Mottur
Raphael Kasper</p> <p><i>Research and Support Staff</i>
Betsy Amin-Arsala
Susan Doscher
Carolyn Essig
Ann Finkelstein
John M. Logsdon
Pamela R. Lucas
Mary Ann Taliaferro
Margo von Kaenel</p> <p><i>Student Researcher</i>
Marianne Bolgar</p> |

COMPLETED AND ONGOING STUDIES

	Title/Sponsor	Staff
16. 1970 October (4 months) Jan. 1971	Oil Spill Pollution Study: Liability and Financial Responsibility Aspects of Harm to the Social Environment (DOT) The purpose of the study, to be made in accordance with section 11 (p) (4) of the Water Quality Improvement Act of 1970, was to determine the need for measures to provide for financial responsibility and limitation of liability, other than those measures contained in 11 (f) (1), (2), and (3), and of 11 (p) (1) of the Act, to pay for the costs of removing discharged oil and paying all damages resulting from the discharge of oil into the navigable waters of the United States or the contiguous zone, by vessels, offshore facilities and onshore facilities.	Principal Investigator Erling Roshold Research and Support Staff David Alligood Anna Brundage Audrey Hassanein Jacquelyn Howard Irene Martinez Susan Myers Alice Nance LeAnn Painter Carla Patterson Helen Thomas Student Researchers Steven M. Anastasion Robert Brady Bennett Brown Dora deGreiff Michael Dworkin Susan Papadopoulos Alexander Pires, Jr. David Sayre Richard M. Tetteilbaum Donald J. Tobias Hartojo Wignjowijoto Consultants George Brankey Clarence Danhof Peter Frucht Howard Reese Stanley Young
17. 1970 November (14 months) Dec. 1971	Communications Technology and the Developing Nations (U.S. AID/AED) Strategies were developed for utilizing communications media to bring family planning, basic education, and nutrition education programs to the rural and urban poor. General principles and programs were developed in the fields of family planning, nutrition, and basic education and were then applied more specifically to Colombia, the Republic of Zaire, and Indonesia. Thus application across a broad spectrum of nations can be achieved. The product includes consultation strategies designed for the process of cooperative work between nations, as well as programs, training and evaluation strategies.	Principal Investigator Joseph Margolin Research and Support Staff Lesley Alter Kathryn Hensley Marion Misch Joset N. Munro Student Researchers Karen Bell Sheri Wolff Consultants Marnan Abdurrachman George Aoloyanis Robert R. Blake Lilly de Buchelli C. Ray Carpenter Bert Cowlan Henry P. David Joseph Fisher Alvaro Garcia-Pena Derrick Jelliffe Kendall W. King Kela Ladenheim Leonard Libresco Lee Love Laifullah Mahjudin Djoni Marsinih E. Lakin Phillips Roger Revette Roberto Rueda-Williamson Charles T. Stewart, Jr. Max H. Waney Hartojo Wignjowijoto Elisabeth Wilson Wimar Witoelar

	Title/Sponsor	Staff
1971 18. April (6 months) Sep. 1971	<p>Technology Assessment Applied to Urban Solid Waste Disposal (NSF)</p> <p>This study applies the methods of technology assessment to solid waste management in the Baltimore city area. In this case, technology assessment considers the technological, economic, political and social factors that are related to the problem of solid waste management. These factors are assessed in a comprehensive and integrated manner so that optimal solutions to this problem can be proposed.</p>	<p><i>Principal Investigators</i> Louis H. Mayo Betsy Amin-Arsala Henry E. Brady</p> <p><i>Research and Support Staff</i> Margo von Kaenel</p> <p><i>Student Researchers</i> William Fisher Audrey Hassanein Jacquelyn Howard Corazon Siddayao</p>
1971 19. June (3 months) Sep. 1971	<p>Facilities and Support Services for 1971 Summer Employment Program: A Seminar-Lecture Series (EPA)</p> <p>A new course on the Environmental Crisis in the Washington metropolitan area investigating selected problems in air and water pollution, waste disposal and land use. It included a series of presentations by representatives of regulatory agencies of the various political jurisdictions in the metropolitan area. Leaders of local ecological organizations participated in planning the workshop course.</p>	<p><i>Principal Investigator</i> John M. Logsdon</p> <p><i>Research and Support Staff</i> Henry Brady Benita Fineman</p>
1971 20. June (6 months) Dec. 1971	<p>Laws and Regulatory Schemes for Noise Abatement (EPA/ONA)</p> <p>To undertake a survey of existing Federal, State, and local laws, ordinances, and regulations governing the abatement and control of environmental noise, and to assess the effectiveness of the administration and enforcement of such provisions. The completed report provides data and analysis on governmental noise regulation for the report to be made by the Administrator of the Environmental Protection Agency to the President and the Congress pursuant to Section 402(b) of the Noise Pollution and Abatement Act of 1970.</p>	<p><i>Principal Investigator</i> Louis H. Mayo</p> <p><i>Research and Support Staff</i> Judith Bowen Vary T. Coates Margo von Kaenel</p> <p><i>Student Researchers</i> Marianne Bolgar Steffen Grae Audrey Hassanein William Neel Christina Olson Edward Shay Corazon Siddayao Stephen Somerstien Robert Ware John Zimmerman</p>
1971 21. June (6 months) Nov. 1971	<p>Regional Seminars on Education Problems (HEW/OE)</p> <p>To assist in the implementation of a series of four regional seminars composed of practitioners in educational research and development with the Commissioner's Planning Unit for the National Institute of Education (NIE). The regional seminars are intended to provide a critical review of NIE planning to date so that any elements which are not well understood can be clarified; and to involve practitioners in development of plans, thus promoting both creative contribution and final acceptance.</p>	<p><i>Principal Investigator</i> Joseph B. Margolin</p> <p><i>Research and Support Staff</i> Marion R. Misch Joset Munro</p>

COMPLETED AND ONGOING STUDIES

	Title/Sponsor	Staff
1971	<p>22. The Space Program During the 1970's: An Analysis of Policy Making (NASA)</p> <p>To complete an on-going study requested by NASA. The two major portions of the study are:</p> <ul style="list-style-type: none">• A narrative section, based on interviews with participants in the policy-making process and documents from NASA and other files, containing a detailed reconstruction of the process under examination; and• An analytic section discussing the forces influencing the outcome of the policy-making process and evaluating the NASA planning and policy analysis activities of the period in terms of those forces and that outcome.	<p><i>Principal Investigator</i> John M. Logsdon</p> <p><i>Student Researcher</i> Jennifer Bond</p>
1971	<p>23. Development of International Educational Communications and Technology (State Dept)</p> <p>The conceptualization and study of the nature and alternative characteristics of an organization which would facilitate development of international educational communications and technology. A charter and a provisional board of directors will be developed, as well as the schema for EdComTech's relationship with existing institutions. Methods for funding will also be postulated and proposed.</p>	<p><i>Principal Investigator</i> Joseph B. Margolin</p> <p><i>Research and Support Staff</i> Karen Bell Marion Misch</p>
1971	<p>24. Evaluation Case Studies (Russell Sage Foundation)</p> <p>To bring together ten to twelve evaluations, and to prepare each with some background on the reason the evaluation was undertaken by the sponsoring agency, some facts about the procurement as perceived by the sponsoring agency and as seen by the contractor, and some discussion of difficulties encountered in doing the study both in regard to relations with the sponsoring agency and with the field activity or activities being analyzed. Following this discussion will be an abstract of the study including methodology and results. A final section will cover the reception of the evaluation by the sponsor and the impact on policy inasmuch as the latter can be determined.</p>	<p><i>Principal Investigator</i> James Abert</p> <p><i>Student Researchers</i> Carol Reitz Joan Szabo Stephen Szabo</p>
1971	<p>25. Highway Interchange Effects on Churches (DOT/Federal Highway Administration)</p> <p>This project researched the effects of 'close-by' highways on several churches in the Washington, D.C. area. The general relationship between churches and highway interchanges had already been considered in a pilot study ("Highway Interchange Locations for Churches—A Pilot Study on Washington, D.C."). Our project relied on that survey to provide a context in which these case studies became more meaningful. The trend of the findings of this study confirmed the pilot study's finding that areal orientations (membership and concern) of the churches are strongly related to unfavorable and favorable evaluations of the effects of closeby limited-access highways.</p>	<p><i>Principal Investigator</i> Joel Garner</p> <p><i>Research and Support Staff</i> Margo von Kaenel</p> <p><i>Consultant</i> Joseph L. Tropea</p>

	Title/Sponsor	Staff
26. 1971 July (30 months) Dec. 1973	<p>Assessment of ESEA Title III Projects (HEW/OE)</p> <p>Although \$700 million was spent on the Title III program of the Elementary and Secondary Education Act (ESEA) between 1965 and 1971, no concentrated effort had been made on the national level to determine what was working. The National Advisory Council on Supplementary Centers and Services, in cooperation with the 54 state and territorial advisory councils, proposed this study to identify successful Title III educational programs supported with Title III funds. The study identifies ten to twenty programs which have been recommended by their state educational agencies, field-assessed, and subjected to rigorous evaluation. In addition to a monthly newsletter designed to inform the Title III community of national developments affecting education and of the activities of Title III projects and state administrators (distribution 3000 copies), the Council prepares and publishes a <i>Quarterly</i> magazine, each reviewing and listing Title III projects in a specific curriculum area. Beginning with a Spring, 1972 issue, these have been:</p> <p>"Title III in Environmental Education"</p> <p>"Title III in Preschool Education"—Summer 1972</p> <p>"Title III and the World of Work"—Fall 1972</p> <p>"Title III in Guidance and Counseling"—Winter 1972</p> <p>"Title III and Changing Educational Designs"—Spring 1973</p> <p>"Title III and Cultural Diversity"—Summer 1973 (reviewing projects in bilingual education and ethnic studies.)</p> <p>The Fall 1973 <i>Quarterly</i> is devoted to Title III projects in educational administration and management. The Winter 1973 issue is on</p> <p>"Title III in the Arts."</p>	<p><i>Principal Investigator</i> Gerald J. Klumpke</p> <p><i>Research and Support Staff</i> Dorsey Baynham Jerome Brightman Gail Gross Linda McGonigal Geraldine Matthews Beverly Nateghi Virginia Robinson Saul Yanofsky</p> <p><i>Consultants</i> Diane Davis Jefferson Eastmond William Furry Rev. Charles Patrick Laferty</p>
27. 1971 July (30 months) Dec. 1973	<p>Effect of Changing Patterns and Levels of Federal Research and Development Funding on Research and Development Funding by Industry (NSF)</p> <p>The relationship between changes in private and government R&D funding in industry can be expressed by a multiplier. This study collected data and estimate multipliers for different types of industries, laboratories, business firms and technologies. Because of different multipliers, changes in the level of federal funding in any one category, or shifts in spending from one category to another affect differentially the national total of R&D funding. Multiplier analysis can be used to refine analysis of demand for scientific manpower resources, or to show the effects of proposed shifts in the allocation of federal R&D funds. Estimated values of multipliers were obtained through econometric analysis of data collected during a three phased field survey conducted during July-August 1971, January 1972, and July-August 1972.</p>	<p><i>Principal Investigator</i> Guy Black</p> <p><i>Research and Support Staff</i> Judith Z. Bowen Arnaldo Castro Gertrude Delman Dorothy Donahue</p> <p><i>Student Researcher</i> William Fischer</p>

COMPLETED AND ONGOING STUDIES

	Title/Sponsor	Staff
28. 1971 August (18 months) Feb. 1973	Technology and Public Policy: The Process of Technology Assessment in the Federal Government (NASA/NSF) A survey of all federal agencies and their major components, followed by indepth interviews with approximately 70 officials, to identify loci within federal agencies where technology assessments are performed, and to evaluate the process as a technique for directing and controlling technological development. The study provides a base of information for improvement of the process and for development of new technology assessment mechanisms where the study indicates that they are needed.	<i>Principal Investigator</i> Vary T. Coates
29. 1971 August (21 months) Mar. 1973	Plan for Local Cooperation and Participation in Measurement of Environmental Noise (Bolt-Baranek & Newman) To develop a program for the measurement of environmental noise in the community and its associated human response.	<i>Principal Investigator</i> Vary T. Coates <i>Support Staff</i> Ophelia Peters Helen Sadtler <i>Student Researchers</i> Martin Echter Jack Zakim
30. 1971 December (19 months) June 1973	Implications of Soviet Marine Expansion (DOT/ONR) To collect all relevant data concerning all facets of the increasing strength of Soviet marine expansions: naval vessels, oceanographic research vessels, merchant marine and fishing fleet. All available sources, including Russian materials, were utilized. Following a normative approach, an analysis was made in order to identify and discuss the implications of Soviet marine expansion.	<i>Principal Investigator</i> John Hanessian <i>Research and Support Staff</i> Ruth Ann Day Laurie Tongren <i>Student Researchers</i> Susan Coady Audrey Hassanein Michael Kalman <i>Consultants</i> Howard C. Reese William J. Spahr Ronald Waldheger
31. 1971 December (36 months) Dec. 1974	The Interrelationship of Urban Governmental Functions to Those at the State, Regional, and Federal Level (Urban Studies, Inc.) To support a series of 'professional seminars' involving university, government, industry and R&D firm representatives to devote their attention to matters such as: (1) The need for and the character of the analytical capability required for a 'quick response' mechanism to serve urban governmental needs; (2) Opportunities for the decentralization of public services and governmental functions through the use of developing telecommunications technology: CATV, Closed-circuit TV, etc.; (3) Application of new technologies which might enable local governments to more effectively and economically comply with recent court decisions requiring 'equality of public services' to all residents within the municipality; and (4) Most effective allocation of activities (and responsibilities) among the Federal-local levels of government, including activities and operations requiring cooperative, integrated efforts.	<i>Principal Investigators</i> Louis H. Mayo Vary T. Coates <i>Consultant</i> Betsy Amin-Arsala

	Title/Sponsor	Staff
1972	<p>32. Effectiveness of Illustrated Print Media (Non-Verbal) on Family Planning Attitudes Among Colombians (State Dept/AID)</p> <p>An evaluation study to assess the effects of two illustrated, largely nonverbal, booklets designed to improve attitudes toward the acceptance of family planning among illiterate and semi-literate populations in Colombia.</p> <p>In addition to the effects of the booklets on target audience knowledge and attitudes towards family planning, further results assessed are:</p> <ul style="list-style-type: none"> • The impact of the delivery systems for booklet on target audience family planning attitudes; • The effects of the booklets and their delivery on the family planning agencies involved; • The process by which booklets spread through communities after delivery to initial target audience members, and the pattern of this informal dissemination. • Recommendations for new policy dealing with the dissemination and utilization of materials. 	<p><i>Principal Investigator</i> Joseph D. Margolin</p> <p><i>Research and Support Staff</i> Karen Bell Margery Kemper Marion R. Misch Judith Naiman Barbara Schickman Martha B. Traini Sheri Wolff</p>
1972	<p>33. Normative Systems Analysis (HEW/NIMH Fellowship)</p> <p>An assessment of the potential of normative analysis with regard to rationale and technical conduct of a more comprehensive approach to urban studies.</p>	<p><i>Principal Investigator</i> Milton Marney</p>
1972	<p>34. Citizen Group Uses of Scientific and Technological Information in Nuclear Power Cases (NSF)</p> <p>An analysis of the mechanisms by which citizen groups obtain and utilize scientific and technological information in making cases involving technological projects with environmental implications.</p>	<p><i>Principal Investigator</i> Steven Ebbin</p> <p><i>Research and Support Staff</i> Audrey Hassanein Margo von Kaenel Raphael Kasper</p> <p><i>Student Researcher</i> John Zimmerman</p>
1972	<p>35. Evaluation of Guidelines and Noise Related Environmental Impact Statements (EPA)</p> <p>To examine a representative sample of environmental impact statements to determine the extent to which noise has been treated as a potential environmental effect, and the extent to which such treatment has been adequate to assure protection of communities and citizens.</p>	<p><i>Principal Investigator</i> Louis H. Mayo</p> <p><i>Research and Support Staff</i> Betsy Amin-Arsala Vary T. Coates Gertrude Delman Mary Ducey Audrey Hassanein Helen Sadtler</p> <p><i>Student Researchers</i> Barry Israel Richard Rice Edward Studholme Robert Ware Jack Zakim</p>
1972	<p>36. Issues and Concerns in Career Education</p> <p>A special pilot program of seven seminars to expose the interns to the views of a variety of executives from both the public and private sectors about the needs and adequacy of educational systems in preparing the nation's youth for lifetime careers. The study analyzed the successes and failures of traditional educational systems and special nonpublic school manpower training programs in preparing people for employment, and evaluated the impact of such programs in career selection.</p>	<p><i>Principal Investigator</i> Steven Ebbin</p> <p><i>Research and Support Staff</i> Kathy Crockett Ann B. Finkelstein Raphael Kasper Kristin Larson Elizabeth Ravnholt Margo von Kaenel</p> <p><i>Career Education Fellows</i> Rudolph Bryant Harold R. Hicks Albert Lorente</p>

COMPLETED AND ONGOING STUDIES

	Title/Sponsor	Staff
37. 1972 June (42 months) Nov. 1975	Graduate Program in Science, Technology, and Public Policy (NSF) Support for a program of research and instruction in science, technology and public policy at GWU. This program will be built upon the existing research efforts of the PPSST and the master's degree program in science, technology and public policy of the School of Public and International Affairs. Program activities would be focused on a broad central theme: "Alternative Strategies for U.S. Science and Technology Policy." There would be four elements in the proposed program: (1) a research project, "Changing National Priorities and Public Policy for Science and Technology: An Examination of Decision-Making Institutions and Processes;" (2) a professional colloquia series initially focused on "U.S. National Goals and Technological Strategy;" (3) a continuing faculty seminar on science, technology, and public policy; and (4) development of new curricular offerings in relevant topics.	<i>Principal Investigator</i> John M. Logsdon <i>Research and Support Staff</i> Mark S. Frankel Audrey Hassanein Marcia Smith Shelly Wax Linda Yelton <i>Student Researchers</i> Michael Bass Jennifer Bond Rosemary Chalk Deborah Cobin Robert Ehrhardt Benita Fineman Joanne Gorman J. Michael Hobert Rodney Huff Mary Mogee Marc Schieber David Wald <i>Lecturers</i> Michael Boretsky Edward David George Eads Philip Handler J. Herbert Hollomon Roger Levien John Mock
38. 1972 July (12 months) June 1973	Personnel Mobility Assignment (NSF/OIP) To assist the NSF Office of International Programs in seeking to develop closer coordination between OIP and the Foundation's research directorates, and to introduce into OIP new ideas, approaches, and management techniques from the university sector.	<i>Principal Investigator</i> Deborah Cobin
39. 1972 July (24 months) June 1974	Personnel Mobility Assignment (NSF/RANN) As a program manager within the Office of Exploratory Research and Problem Assessment, to focus particular attention on the interrelationships between national needs and international consequences with regard to research and development. Within the established program plan of ERPA, to concentrate on innovation in the private sector, competitiveness in the international market, education for a continually changing society, and long-range planning in the public and private sector.	<i>Principal Investigator</i> John Hanessian
40. 1972 July (14 months) Aug. 1973	Analytical Services Relating Communications Technology to Development (State Dept/AID) To develop alternative strategies for the use of communication media to improve the quality of life in selected less developed countries (LDC). These strategies led to country-specific project plans worked out in collaboration with the USAID Mission and LDC personnel. The Educational Policy Group developed alternative strategies for utilizing communication media (TV, radio, etc.) for the improvement of nonformal education. The program was devoted generally to rural populations. This study is a follow-on to one done in 1971 on Communications Technology and the Developing Nations.	<i>Principal Investigator</i> Joseph B. Margolin <i>Research and Support Staff</i> Karen Bell Gail A. Keiser Marion R. Misch Judith Naiman Barbara Stickman Martha Traini Sherri Wolff <i>Consultants</i> Evelyn Anisfeld Jack Barkenbus Philip H. Coombs Alvaro Garcia-Pena Katanga Heitman Marilyn Lichtman

- 41.**
1972 December
(8 months)
July 1973
- Title/Sponsor**
Candidates and Priorities for Technology Assessments: A Survey of Federal Executive Agency Professionals (NSF/RANN)
- To perform a "quick-response" survey of Federal Executive Agencies for the purpose of generating a comprehensive list of current and potential technological inventions, innovations, and applications for which technology assessment is needed; and to categorize such developments and innovations in terms of a number of relevant criteria (such as imminency, potential significance of impact, policy relevance, and the estimated level of effort needed) in order to assist in the selection, scheduling, and design of appropriate assessment efforts in the near future and others to be developed over time.
- Staff**
Principal Investigator
Howard C. Reese
- Research and Support Staff*
Kathleen Cappuccio
- Student Researchers*
Peter Bankson
George Humphries
Ben Sands
Jeff Shaw
- 42.**
1972 December
(9 months)
Aug. 1973
- Interpretation of Energy Demand Scenarios into Life-Style Scenarios (Ford Foundation Energy Policy Project)**
- To formulate alternative life-style scenarios for the future, to relate these to energy consumption, and to derive from them corresponding alternative energy demand scenarios.
- The alternative future energy demand scenarios can then be compared to the alternative future energy supply scenarios to be developed by RFF. The future life-style scenarios are intended to provide graphic and plausible interpretations of the implications of national energy policy options in a form which is meaningful and useful for the public and for public decision-makers.
- Principal Investigator*
Vary T. Coates
- Research and Support Staff*
Dorothy Dier
Roy L. Marx
- Student Researcher*
Joseph Matthews
- 43.**
1973 January
(18 months)
June 1974
- Innovation Information and Analysis Project (NSF/RDA)**
- To build a coherent system for collecting, analyzing, and disseminating information on innovation, including looking into such Government policy areas as tax incentives, subsidies, trade, pertinent laws, patents, and regulation as well as social and economic implications of innovation and the nature of the innovation process. The aim is to search and synthesize information from present sources by utilizing their services and complementing their efforts.
- Principal Investigators*
Louis H. Mayo
Wesley L. Tennant
- Research and Support Staff*
Dennis Brezina
William Fischer
Jennette Fuschini
Charles Hansen
Audrey Hassanein
Claudia Howard
Judith Russell
Fred Schroeder
Michele Sendow
Ann Vlachos
Margaret Ware
Elten Wolff
- Student Researchers*
Merry Aronoff
Raj Bahadur
Pamela Brown
Mary Burns
Robin Fox
Robert Gorman
Lee Jackson
Maarten Kooij
Lisa Kuhn
Mary Lee
Patricia Marx
Robert Mayo
Sarah Mondale
Liza Nacrelli
Benjamin Nyanor
Deborah Saulsbury
Mark Schwartz
Peter Zirnite
- Abstractors*
Julian Gammon
James King
James Maloney
Malcolm McConnell
Frank Miles
Jeanne Moody
Barbara Porter
Phyllis Price
Jean Puppa
Nancy Schandelmeier
Cynthia Shockley
Katherine Shouldice
Rochelle Siegal
Gregory Tassej
Ron Tipton
Carla Vallenta
Robert Ware
- Consultants*
Todd A. Anuskiewicz
John Bosley
William Breswick
Elizabeth Feinler
Edwin Hullander
George Kilpatrick
John Logsdon
Charlton Price
Albert Shapiro
Charles T. Stewart, Jr.
Philip Wright

COMPLETED AND ONGOING STUDIES

	Title/Sponsor	Staff
<p>44. 1973 April (6 months) Sep. 1973</p>	<p>An Integrated Strategy for Aircraft/Airport Noise Abatement (EPA/ONA)</p> <p>This study project will provide the legal-institutional analysis required for the implementation of EPA's responsibilities pursuant to § 7 of the <i>Noise Control Act of 1972</i> (Aircraft Noise Standards). The approach will be to identify the "noise control" choices available at critical decision points in the developmental process of airport-aircraft planning, implementation and operations. The study will also examine the aircraft noise prevention or abatement strategies available at each such decision point, the availability or unavailability of legal-institutional instruments to implement such strategies, the extent to which existing authority has been effectively applied to noise abatement programs, the more serious deficiencies in existing authority (or other constraints) which have precluded effective noise abatement at the Federal, State and local levels, and recommendations for the modification or enlargement of existing authority so as to abate aircraft noise intrusions to a level consistent with the "public health and welfare."</p>	<p><i>Principal Investigator</i> Louis H. Mayo</p> <p><i>Research and Support Staff</i> Betsy Amin-Arsala James M. Brown Gertrude Delman Dorn McGrath Carol Nelson Edward Robbins Edward Studholme Ernest Weiss</p> <p><i>Student Researchers</i> Paul Aiken Edward F. Allebes James Bruce Paul Gaskin Joan Gelber Daniel Guttman Swadesh Kalsi Alan Kassirer Jay Kivits Athanasios Paroutsas Richard E. Price Jared Scharf Onkar Sharma Michael Vollmer Margaret Weekes Alan Wiener Blaine Yamagata</p> <p><i>Consultants</i> Allison Dunham Alvin Greenwald Jan Krasnowiecki Stephen I. Lingenfelter James B. Minor Sheidon Plager Robert D. Rudich Raymond A. Shepanek David Standley Joseph Vittek, Jr. Nicholas C. Yost</p>
<p>45. 1973 April (24 months) Mar. 1975</p>	<p>Revitalization of Small Communities Through Transportation (DOT/OS)</p> <p>The research is based on a two-part hypothesis: that small towns in America represent a valuable resource in solving some of our pressing urban problems, and that new transportation policies and technologies will enable the exploitation of this resource. The purpose of this research is to explore the broad factors which have led to the decline of small towns and how the trends of decline may be reversed through transportation related actions.</p> <p>The study will be broad in scope, focusing upon social, political, and economic aspects of the problem, as well as the purely technological. All transportation modes will be treated with special attention given to new technologies such as TACV and VTOL. Methodology employed will include, as necessary, the range of engineering and economic analysis, as well as legal, institutional, and social impact analyses.</p> <p>The results of this research will be a better understanding of the role of the small town in America and in turn, of the role of transportation in small town utilization. Policies for application of transportation technology to small towns will be recommended.</p>	<p><i>Principal Investigator</i> Vary T. Coates</p> <p><i>Research and Support Staff</i> Joseph Margolin Roy L. Marx Charles Stewart Edward Studholme Ernest Weiss</p> <p><i>Student Researchers</i> Rodney Frame Mona Jaffe Shelley Mastran Judy Naimon Wandy Schacht</p> <p><i>Consultant</i> Robert Anthony</p>

46.
1973 October
(4 months)
Jan. 1974

Title/Sponsor

**Urban Transportation Research and Training
Project (DOT/UMTA)**

To develop recommendations for the Urban Mass Transportation Authority (UMTA) for possible revisions to the UMTA University Program. Broadly this would include detailed study, design, and development work to determine how research and training centers based at institutions of higher learning could best be organized, what they could do, and how their activities could be interfaced with urban transportation policy and program requirements.

Staff

Principal Investigator
Wesley L. Tennant

Research and Support Staff
Vary T. Coates
Dana Friedman
Edward Studholme
Theodore Suranyi-Unger

Student Researcher
Rodney Frame

Consultants
Darcia Bracken
Charlton R. Price

Seminar Series and Participants 1966-1973

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1. Seminar Series on
THE IMPACT OF TECHNOLOGY ON HUMAN VALUES

Chairman: Harold P. Green

Papers were presented as follows:

1. *The Supersonic Transport and the Sonic Boom*

April 3, 1967—Herbert Tenzer (D.-NY)
Member of Congress

2. *Medical Experimentation on Human Beings*

May 8, 1967—Professor David J. Sharpe
George Washington University
and A. E. Parrish, M.D.
George Washington University

3. *Weather Modification—*a) *Legal and Social Aspects*

June 5, 1967 Jack C. Oppenheimer, Assistant Counsel
National Science Foundation

b) *Scientific Prospects*

Peter Wyckoff
National Science Foundation

4. *Computer Technology and Social Imagination*

October 2, 1967—Robert L. Chartrand
Science Policy Research Division
Legislative Reference Service
Library of Congress

5. *Public Understanding of Radiation Protection*

December 4, 1967—Lauriston S. Taylor, President
National Council on Radiation Protection and Measurements

Participants:

Frank B. Allan
Professor of Anatomy;
Coordinator of Teaching Aids
GWU Medical School

Murray D. Ashton
United Kingdom Scientific Mission
The Embassy of Great Britain

Werner Baum
Deputy Administrator
Environmental Science Services Administration

Irwin H. Billick
Legislative Reference Service
Library of Congress

Guy Black
Senior Staff Scientist
GWU Program of Policy Studies

W. H. Boone
Committee on Science and Astronautics
U.S. House of Representatives

William D. Carey
Assistant Director
Bureau of the Budget

William G. Colman
Executive Director
Advisory Commission on Intergovernmental Relations

Joseph Cooper
School of Government and Public Affairs, American University
School of Government, Howard University

Francis P. Cotter

Vice President
Westinghouse Electric Corporation

Clarence H. Danhof

Senior Staff Scientist
GWU Program of Policy Studies

Leo Goodman

Industrial Union Department, AFL-CIO;
Secretary, Atomic Energy Technical Committee

Irving Gray

Professor of Biology, Georgetown University;
Director, Washington Colloquium on Science and Society

Harold P. Green

GWU Professor of Law

Norman Kaplan

Senior Staff Scientist
GWU Program of Policy Studies

James E. Mahoney

Senior Staff Scientist
GWU Program of Policy Studies

Joseph B. Margolin

Senior Staff Scientist
GWU Program of Policy Studies

Louis H. Mayo

Vice President for Advanced Policy Studies;
Director, GWU Program of Policy Studies

Michael Michaelis

Manager, D.C. Branch
Arthur D. Little, Inc.

Clarence Mondale

GWU Professor of American Civilization

Ellis Mottur

Senior Staff Scientist
GWU Program of Policy Studies

Robert P. Multhauf

Director, Museum of History and Technology
The Smithsonian Institution

Brice O'Brien

National Coal Association

Harold Orlans

Senior Staff Member
The Brookings Institution

Walter A. Radius

Office of Assistant Administrator for DOD and
Interagency Affairs
NASA

Leo Schubert

Professor of Chemistry
American University

Chalmers Sherwin

Office of Science and Technology
Executive Office of the President

Stephen Strickland

Associate Director
President's Commission on White House Fellows

William J. Trainor

Special Assistant to the Director
Office of External Research
Department of State

F. Joachim Weyl

Special Assistant to the President
National Academy of Sciences

2. Seminar on
SOCIAL CHANGE IN THE AMERICAN VALUE SYSTEM

Moderator: Clarence Mondale
Professor of American Civilization
George Washington University

Change, Social Problems, and Political Tensions

November 18, 1967—Seymour M. Lipset
Professor of Government and Social Relations
Center for International Affairs
Harvard University

Critique and Commentary by John P. Roche
Special Assistant to President Johnson
The White House

Participants:

David Z. Beckler
Office of Science and Technology
Executive Office of the President

Guy Black
GWU Program of Policy Studies

Robert G. Brown
GWU Professor of Sociology

William Carey
Bureau of the Budget

Clarence Danhof
GWU Program of Policy Studies

Henry David
Division of Behavioral Sciences
National Academy of Sciences

Lloyd H. Elliott
President, GWU

Nathan Glick
United States Information Agency

Irwin P. Halpern
Policy Analysis Staff, NASA

John Hanessian
GWU Program of Policy Studies

Barbara H. Kaplan
GWU Department of Sociology

Robert H. Land
General Reference and Bibliography Division
Library of Congress

Hugh LeBlanc
GWU Professor of Political Science

Joseph B. Margolin
GWU Program of Policy Studies

Louis H. Mayo
GWU Vice President for Advanced Policy Studies;
Director, Program of Policy Studies

Ellis Mottur
GWU Program of Policy Studies

Mancur Olson
Deputy Assistant Secretary for Social Indicators
Department of Health, Education, and Welfare

Harold Orlans
The Brookings Institution

Harvey S. Perloff
Regional and Urban Studies
Resources for the Future

Henry W. Riecken
Social Science Research Council

R. H. Schlagel
GWU Professor of Philosophy

Duane Scribner
Administrative Assistant to Senator Walter Mondale

Willis H. Shapley
Associate Deputy Administrator, NASA

Robert G. Smith
GWU Program of Policy Studies

Wilcomb E. Washburn
Department of American Studies
The Smithsonian Institution

Charles R. Wright
Department of Sociology and Social Psychology
National Science Foundation

Michael Young
Social Science Research Council of Great Britain

3. Seminar Series on
SYSTEMS AND CYBERNETICS CONCEPTS IN UNIVERSITY CURRICULA

Chairman: Richard F. Ericson
Professor of Business Administration
George Washington University

1. *Systems Concepts and Interdisciplinary Curricula*

February 28, 1968—Karl Deutsch
Professor of Government, Harvard University

2. *Systems Concepts and Management Curricula*

March 22, 1968—George Kozmetsky
Dean, School of Business Administration
University of Texas

3. *General Systems Research and Interdisciplinary Studies*

April 28, 1968—Kenneth Boulding
Director, Institute of Behavioral Sciences
University of Colorado

4. *Interdisciplinary Synthesis: The Academic Role in Institutional Adaptation*

December 19, 1968—Milton Marney
Advanced Research Department
Research Analysis Corporation

5. *Interdisciplinary Research and Study Groups: The RAND Experience*

February 14, 1969—Roger Levien
Social Sciences Division, The RAND Corporation

6. *Utilization of Interdisciplinary Systems and Cybernetics: A USSR/US Comparison*

April 11, 1969—Professor John Ford
Scientific Intelligence Specialist
The American University

7. *Problems in Developing Effective Interdisciplinary Teams in the Contemporary University*

May 9, 1969—John H. Milsum
Social Sciences Division, The RAND Corporation

8. *The University's Role in Implementing Social Cybernetics*

May 22, 1969—*Panel Discussion*
Milton Marney (see 4. above);
John Ford (see 6. above);
Charles Williams
Office of Planning and Policy Studies
National Science Foundation

***The following GWU Faculty or Staff members
participated in one or all of the seminars:***

David Abell
Commission on Undergraduate Education in the
Biological Sciences

George R. Allen
Department of Business Administration

Richard C. Allen
Law, Psychiatry and Criminology

Don Allensworth
Department of Political Science

Robert E. Baker
School of Education

Stanley Baker
Department of Biology

Arthur S. Banks
 Department of Political Science

Ruth Bari
 Department of Mathematics

Richard A. Barrett
 Department of Business Administration

Guy Black
 Program of Policy Studies (Economics)

Charles Bradley
 Department of Economics

Harold F. Bright
 Vice President for Academic Affairs

Ira H. Cisin
 Director, Social Research Group

Raymond Cloutier
 Department of Public Administration

Victor H. Cohn
 Department of Pharmacology

Roy M. Coleman
 Department of Psychiatry

George F. Conner
 Department of Business Administration

Paul A. Crafton
 Department of Engineering Administration

John T. Dailey
 Education Research Project

Clarence H. Danhof
 Program of Policy Studies (Economics)

Harold C. DeMoody
 School of Engineering

James C. Dockeray
 Dean, School of Government and Business Administration

Donald S. Douglas
 Department of Biology

Marvin Eisenberg
 School of Engineering and Applied Science

Richard F. Fowler
 Rehabilitation Center

Frederick H. Gibbs
 Health Care Administration

Samuel Gibson
 Public Health Service

Leon Gintzig
 Health Care Administration

John R. Glennie
 Department of Business Administration

Harold P. Green
 Law, Science and Technology

William Griffith
 Department of Philosophy

Phillip Grub
 Department of Business Administration

Andrew Gyorgy
 Institute for Sino-Soviet Studies

Ira B. Hansen
 Department of Biology

Dagmar Henney
 Department of Mathematics

Clifford Ireland
 Department of Statistics

Joe L. Jessup
 Department of Business Administration

Robert S. Jordan
 Department of Political Science

Norman Kaplan
 Program of Policy Studies (Sociology)

L. William Katz
 Health Care Administration

Irving Kayton
 Computer-in-Law Institute

Stephen G. Kent
 Department of Pathology

Arthur D. Kirsch
 Department of Statistics

Jack L. Knetsch
 Natural Resources Policy Center

Felix Kopstein
 HumRRO

Robert Kramer
 National Law Center
 Dean of the Law School

Sar A. Levitan
 Department of Economics

Kurt London
 Institute for Sino-Soviet Studies

John D. Lyons
 HumRRO

Eugene R. Magruder
 College of General Studies

James E. Mahoney
 Program of Policy Studies

Henry G. Manne
 National Law Center

William H. Marlow
 Navy Logistics Center

Martin A. Mason
 School of Engineering and Applied Science

Louis H. Mayo
 Vice President for Advanced Policy Studies;
 Director, Program of Policy Studies

William A. McClelland
 HumRRO

Arnold C. Meltzer
 School of Engineering and Applied Science

Jean Montgomery
 Natural Resources Policy Center

James Mosel
 Department of Psychology

Ellis Mottur
 Program of Policy Studies

Ralph C. Nash
 National Law Center

Benjamin Nimer
 Department of Political Science

Henry R. Page
 Department of Business Administration

Éwing L. Phillips
 Department of Psychology;
 Psychological Clinic

Charles E. Pinkus
 Department of Engineering Administration

Charles E. Rice
 Department of Psychology

John R. Rizzo
Behavioral Science

Daniel D. Roman
Department of Management

Blake S. Root
School of Education

Addison M. Rothrock
School of Engineering and Applied Science

Joan Rubin
Department of Anthropology

Peter Sawitz
Department of Electrical Engineering

Richard H. Schlagel
Department of Philosophy

Robert J. Seidel
HumRRO

Presson Shane
Department of Engineering Administration

Charles W. Shilling
Biological Sciences Communication Project

Daniel Sinick
School of Education

Herbert E. Smith
School of Engineering and Applied Science

Joseph B. Smith
School of Engineering and Applied Science

Lowell C. Smith
Department of Business and Public Administration

Robert G. Smith
Program of Policy Studies

Henry Solomon
Department of Economics

Carol R. St. Cyr
School of Education

Edwin L. Stevens
Department of Speech

Charles T. Stewart
Department of Economics

Choy Tak Taam
Department of Mathematics

Raymond E. Thomas
Department of Statistics
Computer Center

Charles S. Tidball
Department of Physiology

Frank H. Trinkl
State and Local Finances Project

Joseph L. Tropea
Department of Sociology

Carl Walther
Assistant Vice President of Academic Affairs

Regis Walther
Social Research Group

Reuben E. Wood
Department of Chemistry

4. Seminar Series on
FEDERAL CONTRIBUTIONS TO MANAGEMENT

Series Director: David S. Brown
GWU Professor of Public Administration

Papers were presented as follows:

- 1. *Integration and Systematization of Planning, Programming, and Budgeting***
April 18, 1968—Harry R. Page
Associate Professor of Business Administration, GWU
- 2. *Evolution of the Management Audit as a Means of Appraisal***
April 25, 1968—Cecil E. Goode
Professorial Lecturer in Public Administration, GWU
- 3. *Involving Clients and the Public in Federal Administration***
May 2, 1968—Manes Specter
Member, Administrator's Advisory Council
Veterans Administration
- 4. *Communications and Federal Management: Some Current Highlights***
May 8, 1968—Fred R. Brown
Adjunct Professor of Public Administration
American University
- 5. *Federal Experience with Productivity Measurement***
May 16, 1968—John W. Kendrick
Professor of Economics, GWU
- 6. *Value Engineering: Its Development and Application***
May 22, 1968—George R. Allen
Associate Professor of Business Administration, GWU
- 7. *The Uses of Simulation in Management***
May 29, 1968—Stephen Chitwood
Industrial College of the Armed Forces
- 8. *Economics and Its Uses in Government***
June 6, 1968—Guy Black
Associate Research Professor of Business Economics, GWU
- 9. *Federal Contributions to Procurement Management***
June 13, 1968—Daniel D. Roman
Professor of Management, GWU
- 10. *Federal Contributions to the Improvement of Management in Private Enterprise***
November 25, 1968—Edwin Timbers
Professor of Public Administration, and Director,
Navy Graduate Financial Management Program, GWU
- 11. *Federal Contributions to Operations Research***
December 5, 1968—John Coughlan
Certified Public Accountant, Washington, D.C.
- 12. *Federal Contributions to the Management of Records***
December 19, 1968—Chester Guthrie
Acting Special Assistant for Research and Planning
National Archives and Records Service

13. Federal Development and Application of Electronic Computers

January 9, 1969—Lowell H. Hattery
 Professor of Management and Public Administration
 The American University

14. Federal Contributions to the Management of Data Processing Systems

January 16, 1969—Marvin M. Wofsey
 Associate Professor of Management, GWU

Participants:

Herbert E. Angel

Deputy Archivist of the United States
 National Archives and Records Service

Lloyd Bartholomew

Associate Professor of Health Care Administration, GWU

Don L. Bowen

Executive Director
 American Society for Public Administration

Harold F. Bright

Vice President for Academic Affairs, GWU

Albert W. Brisbin

Assistant Commissioner for Planning and Research
 Internal Revenue Service

Fred R. Brown

Adjunct Professor of Public Administration
 American University;
 Professor of Management
 Industrial College of the Armed Forces

Richard G. Cheek

Branch Manager
 Manpower, Inc.
 Washington, D.C.

Carl W. Clewlow

Deputy Assistant Secretary for Civilian Personnel Policy
 Office of Assistant Secretary of Defense (Manpower)

Daniel R. Cloutier

Associate Professor of Public Administration, GWU

Seymour I. Colman

Manager of Planning, Programming and Budgeting Systems
 Stanford Research Institute

Robert B. Curry

Vice President for Management Systems
 Association of American Railroads

Warren Dahlstrom

Chief, Division of Organization and Management Studies
 Office of Management Research
 U.S. Department of the Interior

Clarence H. Danhof

Senior Staff Scientist
 Program of Policy Studies, GWU;
 Professor of Economics; and Lecturer
 Johns Hopkins School of Advanced International Studies

Ruth M. Davis

Director
 Lister Hill National Center for Bio-Medical Communications
 National Library of Medicine

Paul M. Dickie

Assistant Professor of Business Administration, GWU

Commander Michael M. Dietch, Jr.

Assistant Comptroller
 Financial Management Systems
 Bureau of Medicine and Surgery
 Department of the Navy

J. C. Dockera

Dean, School of Government and Business
 Administration, GWU

Edmund D. Dwyer

Director of Audits and Compliance
 General Services Administration

John P. Eberle

Director, Office of Administration
 Equal Employment Opportunity Commission

Edward Eschbach

Consulting Economist
 Checchi and Company, Washington, D.C.

Harold B. Finger

Associate Administrator for Organization and Management
 National Aeronautics and Space Administration

Harry H. Fite

Chief, Data Systems Division
 Office of Management Systems
 Department of Transportation

Charles Fotis

Director of Employee Training and Career Development
 Office of Assistant Secretary of Defense (Manpower)

Thomas Francis

Director, Office of Development Districts
 Economic Development Administration
 Department of Commerce

Howard Gammon

Assistant to the Director, Center for Computer Sciences
 National Bureau of Standards, U.S. Department of Commerce

Leon Gintzig

Chairman and Professor of Health Care Administration, GWU

Barry M. Goldstone

Management Analyst, Office of Education
 U.S. Department of Health, Education, and Welfare

H. E. Green

Assistant Research Professor of Health Care
 Administration, GWU

Robert L. Holland

Associate Professor of Business Administration, GWU

Grace Hopper

Director, Navy Planning Languages Group
 Office of the Special Assistant to the Secretary of the Navy

Arthur Jebens

Director of Management Research
 Office of the Assistant Secretary for Administration
 U.S. Department of the Interior

Clement Jeck

Chief of Records Management
 Management Research Division
 Office of the Assistant Secretary for Administration
 U.S. Department of the Interior

Walter J. Kennevan

Supervisory Systems Accountant
Data Processing Systems Division
Office of the Comptroller
Department of the Navy

E. J. B. Lewis

Assistant Dean for Special Projects
School of Government and Business Administration, GWU

John F. McCarthy, Jr.

Associate Professor of Business Administration, GWU

Edward M. McCormick

Office of Management Improvement
Office of Assistant Secretary for Administration
U.S. Department of Agriculture

John L. McGruder

Director of Management Systems
Office of Assistant Secretary for Administration
U.S. Department of Transportation

James McQueen

Technical Analysis Division
National Bureau of Standards
U.S. Department of Commerce

Eugene R. Magruder

Dean, College of General Studies; and
Associate Professor of Business Administration, GWU

Edward J. Mahoney

Associate Director
Office of Policy and Special Studies
General Accounting Office

James E. Mahoney

Senior Staff Scientist
Program of Policy Studies, GWU

Leroy Mantell

Professor of Management
Georgetown University

Michael March

Assistant Director
Resources Planning Staff
Bureau of the Budget

Louis H. Mayo

Vice President for Advanced Policy Studies;
Director, Program of Policy Studies in Science and
Technology;
Professor of Law
National Law Center, GWU

Uta Merzbach

Curator of Mathematic Instruments
Museum of History and Technology
The Smithsonian Institution

Leo Miller

Administrative Director
President's Council on Youth Opportunity

Ellsworth H. Morse, Jr.

Director, Office of Policy and Special Studies
General Accounting Office

Tom O'Connor

Director, Inventory and Analysis Finance Staff
Naval Supply Systems Command
Department of the Navy

John B. Oren

Rear Admiral, USCG (Ret.)
Executive Director
Maritime Transportation Research Board
National Research Council/National Academy of Sciences

Chei-Min Paik

Assistant Professor of Accounting, GWU

Ralph Purcell

Professor of Political Science, GWU

Daniel E. Roman

Professor of Management;
Chairman, Committee on Doctoral Studies
School of Government and Business Administration, GWU

McKee Rosen

Visiting Professor of Public Administration, GWU

Richard Ross

Director of Conferences, Seminars and Institutes
College of General Studies, GWU

Leo A. Schmidt, Jr.

Program Analysis Division
Institute for Defense Analysis

Harold Seidman

Scholar-in-Residence
National Academy of Public Administration

Presson S. Shane

Professor of Engineering Administration, GWU

Harold Silverstein

Special Assistant to the Chief of Communications-Electronics
Department of the Army

Colonel O. L. Smiley

Staff Assistant
Office of Assistant Secretary of Defense (Installations and
Logistics)

Lowell C. Smith

Assistant to the Dean
School of Government and Business Administration;
Assistant Professor of Business and Public
Administration, GWU

Waldo Sommers

Professor of Public Administration, GWU

Robert F. Steadman

Director, Committee for the Improvement of Management
in Government
Committee for Economic Development

Ward Stewart

Advisor on Business and Public Administration
Office of Education
Department of Health, Education, and Welfare

Karl E. Stromsem

Chairman and Professor of Public Administration, GWU

R. Thelwell

Program Analyst
Office of the Director
Bureau of the Budget

Ernest Weiss

Executive Director
National Transportation Safety Board
Department of Transportation

Wilford White

Director, Small Business Guidance and Development Center
Howard University

Rupert C. Woodward

Director of Libraries, GWU

5. Workshop Conference on

THE URBAN CHALLENGE: THE MANAGEMENT AND INSTITUTIONAL RESPONSE

Airlie House, Warrenton, Va.

June 19-21, 1968

A Workshop co-sponsored by the Program of Policy Studies with
HUD Office of Business Participation
and Institute for Politics and Planning,
and System Development Corporation

Conference Chairmen: Bernard A. Schriever
Arthur W. Barber
Michael M. Feuers
Robert F. McAuliffe

Conference Coordinator: Robert G. Smith

Participants:

Roy C. Amara

Executive Director
Systems Sciences
Stanford Research Institute

Charles A. Anderson

President
Stanford Research Institute

Philip Arnow

Director
Office of Planning and Research
Department of Labor

Arthur W. Barber

President
Institute for Politics and Planning

John Bebout

Director
Urban Studies Center
Rutgers University

W. C. Beckwith

Aerojet-General Corporation

Harold K. Bell

Director
Urban Action and Experimentation Program
Columbia University

Robert Bell

Office of Technology Utilization, NASA

David Bendaniel

Advanced Programs in Research and Development
General Electric Company

John C. Beresford

Bureau of the Census
Department of Commerce

William Besuden

Assistant Director
International City Managers Association

Alfred Blumstein

Office of Urban Research
Institute for Defense Analyses

Lucille Branton

Wiley Branton
Executive Director
United Planning Organization

Leonard S. Breen

Head, Department of Sociology
Purdue University

Ben J. Brown

Junior Associate
B. A. Schriever Associates, Inc.

C. Harold Brown

Acting Director
Division of Urban Planning
University of Delaware

James M. Brown

GWU Professor of Law

Frederick S. Burrell

Manager
Housing and Ocean Systems
General Electric Company

John Caffrey

Director
Commission on Administrative Affairs
American Council on Education

Patrick Callan

Manager
Urban Technology Program
General Electric Company

Richard Canavan

Staff Vice President
National Association of Home Builders

David Carlisle

Management Consultant

Launor Carter

Senior Vice President
System Development Corporation

Robert L. Chartrand

Information Sciences Specialist
Library of Congress

Alexander N. Christakis

Doxiadis System Development Center

B. F. Coggan

Vice President for Marketing
North American Rockwell Corporation

Albert M. Cole

Director
Reynolds Metals Development Corporation

Robert P. Crago

Director of Civil Programs
International Business Machines

Paul Danaceau

U.S. Senate Committee on Government Operations

Arsen Darney

Mid-West Research Institute

James F. Dineen

Special Counsel
Raytheon Company

John Dixon
 Manager
 Corporate Communications
 Xerox Corporation

Hugh P. Donaghue
 Assistant to the President
 Control Data Corporation

Herbert Dordick
 The System Development Corporation

Russell Dorr
 Washington Representative
 The Chase Manhattan Bank

Harold J. Downes
 Vice President for Special Marketing Development
 North American Rockwell Corporation

Constantinos Doxiadis
 President
 Doxiadis Associates

Lloyd E. Dyer
 Vice President for Personnel
 Chesapeake and Potomac Telephone Companies

William Eaton
 General Manager
 Information Service Department
 General Electric Company

Lloyd H. Elliott
 President, GWU

John Field
 Director of Community Relations Service
 U.S. Conference of Mayors

Michael M. Feuers
 Research and Special Projects Directorate
 The System Development Corporation

Sidney I. Firstman
 Inter-Corporate Director
 Urban Programs Planning Research Corporation

Thomas R. Fitzgerald
 Vice President for Academic Affairs
 Georgetown University

Herbert Franklin
 National Urban Coalition

Marvin Friedman
 Assistant Director of Research, AFL-CIO

Harvey A. Garn
 Senior Project Officer
 The Urban Institute

O. James Gibson
 Secretary for Planning and Research
 Office of the Governor of California

James P. Gilliland
 District Manager
 H. H. Robertson Company

John Golden
 Director
 Washington Office
 Stanford Research Institute

Lawrence P. Greene
 Assistant to the President
 North American Rockwell Corporation

William Gregory
 Managing Editor
 Aviation Week and Space Technology

Alex Gritz
 Office of Emergency Planning
 Executive Office of the President

Clarence A. Grubb
 Director
 Public Works and Housing
 Stanford Research Institute

Irwin Halpern
 Director
 Policy Analysis Staff, NASA

John Hanessian
 GWU Program of Policy Studies, and
 Department of Political Science

Phillip Hargraves
 General Electric Company

John Harris
 The System Development Corporation

Edward Hearle
 Vice President
 Booz-Allen and Hamilton, Inc.

William Hines
 Vice President and Manager
 Washington Office
 Rocketdyne Division
 North American Rockwell Corporation

Frances P. Hoerber
 RAND Corporation

Robert Howes
 Chairman
 City and Regional Planning
 Catholic University of America

Edmond Hutchinson
 Chairman
 Exploration Development Group
 Research Analysis Corporation

Joseph L. Intermaggio
 GWU Adjunct Professor of Urban Planning

Elden Jacobson
 Washington Center for Metropolitan Studies

David Jeffrey
 Editor
 GW Magazine, GWU

Robert G. Jones
 GWU Professor of Religion

Fred Jordan
 Model Cities Administration, HUD

Mark E. Keane
 Executive Director
 International City Managers' Association

Eamon Kelley
 Economic Development Administration
 Department of Commerce

Robert L. Kirby
 Technical Director
 The MITRE Corporation

Donald Kummerfeld
 Assistant to the President
 The Urban Institute

James L. Kunen
 Executive Vice President
 The Eugene and Agnes Meyer Foundation

Marjorie Lawson (Judge)
 General Counsel
 Model Inner City Community Organization

Stanley Lawwill
 President
 Analytic Services, Inc.

Helen Leavitt
 Author

William Leavitt
 Senior Editor
 Air Force and Space Digest

Leonard L. Lederman
Fellow, Battelle Memorial Institute

Russell Leedy
Professor of Social Services
Catholic University of America

Arnold C. Lewis
Office of Emergency Planning
Executive Office of the President

Joseph H. Lewis
Senior Project Officer
The Urban Institute

Arthur J. Levin
Staff Director
Potomac Institute

Ida D. Levin
State Housing Chairman
Maryland League of Women Voters

George Levine
Professional Engineer
B. A. Schriever Associates, Inc.

Leonard W. Lilley
Senior Associate
B. A. Schriever Associates, Inc.

Don Loomis
Staff Writer
Business Week

C. Ronald Lowry
Director of Air Commerce
Aerospace Industries Association

Sherrill D. Luke
Director of Program Development
District of Columbia Government

Kenneth Mabuchi
Institute for Politics and Planning

William H. Magness
President
Gulf-Reston Corporation

Grace Malakoff
Urban Specialist

Robert Martin
Professor of Government
Howard University

Louis H. Mayo
GWU Vice President for Advanced Policy Studies

Robert F. McAuliffe
Director
Office of Business Participation, HUD

Joseph B. McGrath
Legislative Counsel
National Association of Home Builders

Michael Michaelis
D.C. Manager
Arthur D. Little, Inc.

Paul J. Mika
Chairman
GWU Department of Geography

Walter Milligan
Systems Research Corporation

John R. Moore
President
Aerospace and Systems Group
North American Rockwell Corporation

Glenn Nellis
Legislative Assistant to Congressman Leonard Farbstein

John H. Nixon
Ralph M. Parsons Company

D. E. Oyster
Specialist in Research and Engineering
North American Rockwell Corporation

Thomas O. Paine
Deputy Administrator, NASA

John K. Parker
Manager
Systems Division
Government Studies Center
University of Pennsylvania

Robert B. Parks
Executive Vice President
Technomics, Inc.

Peter Paul
Urban America, Inc.

William C. Pendleton
The Ford Foundation

Hal S. Phillips
Corporate Director of Public Relations
Fairchild Hiller Corporation

W. J. Pierce
Communications Director
Developing Urban Research Project
Detroit Edison Company

John Pincus
The RAND Corporation

William Press
Executive Vice President
Metropolitan Washington Board of Trade

Walter Radius
Special Assistant to the Assistant Administrator for DOD
and Interagency Affairs, NASA

Howard C. Reese
Systems Research Corporation

Joseph Reres
Director
Plans and Programs
Public Systems Division
System Development Corporation

Richard H. Ross
Director
GWU Conferences, Seminars and Institutes

Willard Rouse
Executive Vice President
The Rouse Co.

Leo Sade
President
Sade and Company

Stephen G. Saltzman
B. A. Schriever Associates, Inc.

Edward Saunders
Deputy Director
National Resources Analysis Center
Office of Emergency Planning
Executive Office of the President

Leon A. Schertler
Task Force Director
Inner City Programs
Job Corps
Office of Economic Opportunity

Raymond Schneyer
Special Assistant to the President
Lockheed Aircraft Corporation

Bernard A. Schriever

Vice Chairman
Advisory Committee
GWU Program of Policy Studies

James Singleton

Vice President and Assistant Manager
Public Systems Division
System Development Corporation

Robert G. Smith

GWU Program of Policy Studies

Herbert A. Swenson

Department of Interior Technical Staff

H. F. Sykes

Matrix Corporation

Peter Szanton

Director
New York Office
RAND Corporation

Richard Taft

President
J. R. Taft Associates

H. Ralph Taylor

Assistant Secretary for Model Cities and
Governmental Relations, HUD

Michael Teitz

Vice Chairman
Department of City and Regional Planning
University of California (Berkeley)

Shirley Thomas

Chairman
Mayor's Space Advisory Committee
Office of the Mayor of Los Angeles

R. J. Thompson

Vice President and Director
Rocketdyne Division Research Group
North American Rockwell Corporation

Bart Tuffly

Research Chief
Environmental Systems
Rocketdyne Division
North American Rockwell Corporation

Edward Uhl

President
Fairchild Hiller Corporation

Carl H. Walther

Assistant Vice President for Academic Affairs, GWU

James G. Watt

Community and Regional Resources Division
U.S. Chamber of Commerce

Douglas Whitlock

Director
Producer's Council

Richard D. Williams

Washington Representative
Rocketdyne Division
North American Rockwell Corporation

Robert C. Wood

Under Secretary, HUD

Kenneth Yarnold

Director
Research and Special Projects
System Development Corporation

Charles Zraket

Vice President
Washington Operations
The MITRE Corporation

6. Seminar on
SCIENCE POLICY AND PUBLIC AFFAIRS IN EUROPE
December 4, 1968

Co-Chairmen: John Hanessian, Jr.
Associate Professorial Lecturer in Political Science, GWU
and Norman Kaplan
Professor of Sociology, GWU

Paper presented by Jean-Jacques Salomon, Chief of Science Policy Division
Organization for Economic and Cooperative Development
Paris, France

Participants:

A. Wesley Barthelmes

Administrative Assistant to The Honorable Richard Bolling
United States House of Representatives

Guy Black

Senior Staff Scientist, Program of Policy Studies;
Associate Research Professor of Business Economics, GWU

William D. Carey

Assistant Director
Bureau of the Budget

Clarence H. Danhof

Senior Staff Scientist, Program of Policy Studies;
Professor of Economics; and Lecturer
Johns Hopkins School of Advanced International Studies

Henry David

Executive Secretary
Division of Behavioral Sciences
National Academy of Sciences

Steven Ebbin

Staff Director
Subcommittee on Government Research
United States Senate

Alfred J. Eggers

Assistant Administrator
Office of Policy Planning
National Aeronautics and Space Administration

Charles Falk

Director of Planning
National Science Foundation

Harold P. Green

Director of Law, Science and Technology Program;
Professor of Law
National Law Center, GWU

Sydney Greybeal

Deputy Assistant Director
Science and Technology Bureau
Arms Control and Disarmament Agency

Andrew Gyorgy

Professor of International Affairs
Sino-Soviet Institute, GWU

John Hanessian

Senior Staff Scientist, Program of Policy Studies;
Associate Professorial Lecturer in Political Science, GWU

H. Theodore Heintz

Budget Analyst
Bureau of the Budget

Robert S. Jordan

Associate Professor of International Affairs, GWU

Norman Kaplan

Senior Staff Scientist, Program of Policy Studies;
Professor of Sociology, GWU

Wolfgang Kraus

Professor of Political Science, GWU

James E. Mahoney

Senior Staff Scientist, Program of Policy Studies, GWU

Ray Mayhew

International Science Administrator
Office of International Science Activities
National Science Foundation

Louis H. Mayo

Director
Program of Policy Studies in Science and Technology;
Vice President for Advanced Policy Studies; and
Professor of Law, GWU

E. Gene Marr

Research Officer
Office of University Affairs, NASA

Michael Michaelis

D.C. Manager
Arthur D. Little, Inc.

Rex Minckler

Senior Economist, Battelle Memorial Institute

Ellis Mottur

Senior Staff Scientist, Program of Policy Studies, GWU

Harland B. Moulton

International Relations Bureau
U.S. Arms Control and Disarmament Agency

Harold Orlans

Senior Fellow
The Brookings Institution

Sydney Passman

Chief, Weapons Systems Division
Science and Technology Bureau
U.S. Arms Control and Disarmament Agency

J. D. Perkinson

Director
Department of Scientific Affairs
Organization of American States

Marvin Robinson

Outer Space Affairs Group
United Nations

William Trainor

Office of External Research
Bureau of Intelligence and Research
U.S. Department of State

Edward Wenk, Jr.

Executive Secretary
National Council on Marine Resources and
Engineering Development
Executive Office of the President

Dale Wolfe

Executive Officer
American Association for the Advancement of Science

Herbert B. Quinn

Chief, Research Branch
Office of University Affairs, NASA

7. Seminar Series on
PROCESSES OF TECHNOLOGY ASSESSMENT

Series Chairman: Louis H. Mayo

Papers were presented as follows:

1. *Assessment Information Systems*

January 23, 1969—Clarence H. Danhof
Senior Staff Scientist
Program of Policy Studies, GWU

2. *Technology Assessment and the Congress*

February 19, 1969—Richard A. Carpenter
Senior Specialist in Science and Technology
Science Policy Division
Legislative Reference Service, Library of Congress

3. *The Adversary Process in Technology Assessment*

March 19, 1969—Harold P. Green
Professor of Law, and Director of Law, Science and Technology Program
National Law Center, GWU

4. *The Management of Technology Assessment*

April 23, 1969—Louis H. Mayo, Director of Series
Vice President for Advanced Policy Studies
Director, Program of Policy Studies
Professor of Law
National Law Center, GWU

5. *Technology Assessment in the Executive Office of the President*

December 11, 1969—Charles V. Kidd
Director, Council on Federal Relations
The Association of American Universities

6. *The Social Function of Technology Assessment*

January 22, 1970—Franklin P. Huddle
Specialist in Science and Technology
Science Policy Research Division
Legislative Reference Service, Library of Congress

7. *The Process of Technology Assessment in the Food and Drug Administration*

March 5, 1970—Alan Kaplan and Robert H. Becker
Kleinfeld and Kaplan Law Offices

8. *Technology Assessment or Technology Harassment?*

March 26, 1970—Leon Green, Jr.
Director of Planning (Washington)
Lockheed Aircraft Corporation

9. *Processes of Technology Assessment: Telling It Like It Is—The National Transportation Safety Board*

April 23, 1970—Ernest Weiss
Executive Director, National Transportation Safety Board
Department of Transportation

10. *Technology Assessment and Citizen Action*

May 26, 1970—Ellis Mottur
Senior Staff Scientist
Director, Technology Assessment Implementation Project
Program of Policy Studies, GWU

Participants:**Thomas W. Adams**

Senior Policy Analyst
Office of Policy, NASA

Bodo Bartocha

Deputy Head
Office of Planning and Policy Studies
National Science Foundation

Robert H. Becker

Associate
Kleinfeld & Kaplan Law Offices
Washington, D.C.

Everett H. Bellows

Vice President
Olin Corporation
Washington, D.C.

Charles F. Bingman

Deputy Director
Organization and Management Planning Division, NASA

James M. Brown

Professor of Law, GWU

Carl W. Bruch

Chief
Bacteriological Branch, Microbiology Division
Bureau of Science
Food and Drug Administration

John L. Buckley

Technical Assistant
Office of Science and Technology
Executive Office of the President

William Carey

Senior Consultant
Arthur D. Little, Incorporated

Richard A. Carpenter

Head
Environmental Policy Division
Legislative Reference Service
Library of Congress

Ira H. Cisin

Director
Social Research Group; and
Professor of Sociology, GWU

Joseph F. Coates

Staff Associate
Office of Interdisciplinary Research
National Science Foundation

Vary T. Coates

Research Scientist
Program of Policy Studies, GWU

Joseph Cooper

Professor of Government
Howard University

Joseph D. Crumlish

Manager
Innovation Studies
National Bureau of Standards
U.S. Department of Commerce

Clarence H. Danhof

Senior Staff Scientist
Program of Policy Studies, GWU

Charles L. Dunham

Chairman
Division of Medical Services
National Academy of Sciences

Alfred J. Eggert, Jr.

Assistant Administrator for Policy, NASA

Joseph V. Foa

Professor of Engineering, GWU

James Gehrig

Staff Director
Committee on Aeronautical and Space Sciences
U.S. Senate

Leo Goodman

Consultant on Energy and Natural Resources
United Auto Workers

Philip Gould

Staff Member
Systems Evaluation Division
Institute for Defense Analyses

Irving Gray

Professor of Biology
Georgetown University

Harold P. Green

Professor of Law;
Director of Law, Science and Technology Program
National Law Center, GWU

Leon Green, Jr.

Executive Secretary
Defense Science Board
Office of Director of Defense Research and Engineering
U.S. Department of Defense

Wayne R. Gruner

Deputy Director
Division of Mathematical and Physical Sciences
National Science Foundation

Walter A. Hahn

Deputy Assistant Secretary for Scientific and
Technical Planning
U.S. Department of Commerce

Charles Halpern, Esq.

Director
Center for Law and Social Policy
Washington, D.C.

Irwin Halpern

Director
Policy Analysis Staff, NASA;
National Goals Research Staff
The White House

John Hanessian, Jr.

Senior Staff Scientist, Program of Policy Studies;
Associate Professor of International Affairs, GWU

Robert B. Heller

Professor of Engineering and Applied Science, GWU

Laurence Hewes

Vice President
J. Richard Taft Associates
Washington, D.C.

Guenther Hintze

Research Professor of Electrical Engineering, GWU

Isaac Hoover

Head
Office of Noise Abatement
Federal Aviation Administration
Department of Transportation

Robert Howard

Budget Examiner
U.S. Bureau of the Budget

Franklin P. Huddle

Specialist in Science and Technology
Science Policy Research Division
Legislative Reference Service
Library of Congress

Alan Kaplan

Partner
Kleinfeld & Kaplan Law Offices
Washington, D.C.

Norman Kaplan

Senior Staff Scientist, Program of Policy Studies;
Professor of Sociology, GWU

Raphael G. Kasper

Research Scientist
Program of Policy Studies, GWU

Frances O. Kelsey, M.D.

Director
Division of Scientific Investigations
Food and Drug Administration

Charles V. Kidd

Director
Council on Federal Relations
Association of American Universities

David Kieffer

Senior Editor
Chemical and Engineering News

William M. Kitzmiller

Legislative Assistant to U.S. Representative
Richard L. Ottinger (D-N.Y.)

Vincent Kleinfeld

Partner
Kleinfeld & Kaplan Law Offices
Washington, D.C.

Ezra Kohn

Director for Research
President's Commission on Consumer Interests

James L. Kunen

Executive Vice President
The Eugene and Agnes Meyer Foundation

W. Henry Lambright

Professor of Political Science, Syracuse University;
Special Assistant
Sustaining University Affairs Program
Office of University Affairs, NASA

Robert Lamson

Office of Planning and Policy Studies
National Science Foundation

Leonard Lederman

Fellow and Senior Research Advisor
Battelle Memorial Institute

Joseph Luman

Defense Analyst
Subcommittee on Military Operations
Committee on Government Operations
U.S. House of Representatives

James E. Mahoney

Senior Staff Scientist
Program of Policy Studies, GWU

M. S. Malkin

President
NUS Corporation (Consultants to nuclear power industry)

Harold G. Mandel

Professor of Pharmacology
GWU Medical School

Joseph B. Margolin

Senior Staff Scientist and Director
Educational Policy Group
Program of Policy Studies, GWU

Rodney Markley

Vice President
Ford Motor Company

William H. Marlow

Director
Institute for Management Science and Engineering;
Professor of Applied Science, GWU

Frank Marriott

Assistant to the Vice President for Public Systems Marketing
Westinghouse Electric Corporation

Louis H. Mayo

Vice President for Policy Studies and Special Projects;
Director
Program of Policy Studies in Science and Technology;
Professor of Law
National Law Center, GWU

Emmanuel G. Mesthene

Executive Director
Program on Technology and Society
Harvard University

Michael Michaelis

Manager
Arthur D. Little, Inc.
Washington, D.C. Office

Arthur S. Miller

Professor of Law, GWU

Clarence C. Mondale

Associate Professor of American Civilization;
Director
Washington Project, GWU

Laurence I. Moss

Executive Secretary
Committee on Public Engineering Policy
National Academy of Engineering

Ellis Mottur

Senior Staff Scientist
Program of Policy Studies, GWU

Robert Multhauf

Director
Museum of History and Technology
The Smithsonian Institution

Arnold S. Nash

Consultant on the Humanities
National Goals Research Staff
The White House

Harold Orlans

Senior Fellow
The Brookings Institution

John B. Phelps

Washington Editor
Physics Today
American Institute of Physics

Walter A. Radius

Special Assistant to the Assistant Administrator
Office of Defense Department and Interagency Affairs, NASA

John Rasmussen

Professor of Chemistry
Yale University

Thomas Ratchford

Science Consultant
Committee on Science and Astronautics
U.S. House of Representatives

Leonard Rodberg

Resident Fellow
Institute for Policy Studies
Washington, D.C.

S. McKee Rosen

Visiting Professor of Public Administration, GWU

Jean-Jacques Salomon

Visiting Social Scientist
MIT Center for International Studies; and
Chief
Science Policy Division, OECD
Paris, France

Leo Shubert

Professor of Chemistry
The American University

Harvey B. Silverstein

Research Assistant
Program of Policy Studies, GWU

Daniel Singer

Partner
Strasser, Spiegelberg, Fried, Frank & Kampelman
Washington, D.C.

Nozer Singpurwalla

Professor of Engineering Administration, GWU

Francis B. Smith

Assistant Administrator for University Affairs, NASA

Joel A. Snow

Acting Head
Office of Interdisciplinary Research on Problems of
our Society
National Science Foundation

Henry Solomon

Professor of Economics, GWU

Richard E. Stephens

Chief
Management Administration Branch
Office of University Affairs, NASA

Robert L. Stern

Manager
Advanced Technology Services
Assistant to the Senior Vice President for Research and
Development
The Xerox Corporation

Gabor Strasser

Technical Assistant
Office of Science and Technology
Executive Office of the President

Charles S. Tidball

Henry D. Fry Professor of Physiology
GWU School of Medicine

Duke C. Trexler

Executive Secretary
Drug Research Board
National Academy of Sciences

Laurence H. Tribe

Executive Director
Technology Assessment Panel
Committee on Science and Public Policy
National Academy of Sciences

Joseph L. Tropea

Director
Behavioral Systems Policy Research Group;
Program of Policy Studies, GWU

E. Winslow Turner

General Counsel
Subcommittee on Intergovernmental Relations
Committee on Government Operations
U.S. Senate

Ernest Weiss

Executive Director
National Transportation Safety Board
Department of Transportation

David H. West

General Aviation Liaison Officer
Federal Aviation Administration

Charles W. Williams, Jr.

Staff Director
National Goals Research Staff
The White House;
Staff Associate
Office of Planning and Policy Studies
National Science Foundation

Glen P. Wilson

Professional Staff
Committee on Aeronautical and Space Sciences
U.S. Senate

Clotaire Wood

Deputy Director
DOT/NASA Civil Aviation R&D Policy Study
Department of Transportation

Reuben E. Wood

Professor of Chemistry, GWU

James R. Wright

Secretary
Advisory Committee on Transportation Noise
Highway Research Board
National Academy of Sciences
Counsel

Philip Yeager

Committee on Science and Astronautics
U.S. House of Representatives

8. Seminar Series on
THE APPLICATION OF MODERN TECHNOLOGY TO URBAN PROBLEMS

Series Coordinator: James M. Brown
Professor of Law, GWU

Professor Brown presented discussion papers for the first two seminars of this series as indicated below:

1. Homesteading in the 70's

May 27, 1969

2. The Influence of Modern Technology on Population Distribution

July 15, 1969

The seminars continued in the winter of 1969-70 as follows:

3. Toward a More Balanced and Better Urban Government: An Agenda for Intergovernmental Action

September 16, 1969—James H. Pickford
Senior Analyst
Advisory Committee on Intergovernmental Relations

4. Industrialization in Housing Construction

November 18, 1969—John P. Eberhard
Dean, School of Architecture and Environmental Design
State University of New York at Buffalo

5. The Role of Construction Labor in an Era of Industrialized Housing

February 19, 1970—John M. Dickerman, Esq.
Housing Industry Consultant, Washington, D.C.

Participants:

Earl F. Bennett

Manager
Architectural Sales
The Koppers Company, Inc.
Pittsburgh, Pa.

L. J. Bibri

Director of Employee Relations
Armstrong Cork Company

Lawrence Biekka

National Goals Research Staff
The White House

Roy Bivins

Coordinator for Interagency Programs
Office of Technology Utilization, NASA

George T. Bogard

Manager
Corporate Market Development
General Electric Company
Louisville, Kentucky

John K. Bowersox

Executive Director
Producer's Council, Inc.
Washington, D.C.

Paul Brace

Director
Application Review Division
Office of New Communities Development, HUD

James M. Brown

Professor of Law, GWU;
Coordinator
Urban Problems Seminar Series
Program of Policy Studies, GWU

Carlos Campbell

Special Assistant to Assistant Secretary for Metropolitan
Development, HUD

John L. Cameron

Director
Division of Facilities Development
Office of Construction Service
U.S. Office of Education

David Carlisle

Management Consultant
Washington, D.C.

Joseph M. Carlson

Technology Utilization Division, NASA

John Carver

Commissioner
Federal Power Commission

Martin Chase

President
Chase, Rosen & Wallace (Operations Research)
Alexandria, Va.

Vary T. Coates

Research Scientist
Program of Policy Studies, GWU

Clarence H. Danhof

Senior Staff Scientist
Program of Policy Studies, GWU

L. P. Daspit

Rear Admiral, USN (Ret.)
Executive Director
NAS/NAE Advisory Committee to HUD

John M. Dickerman, Esq.

Housing Industry Consultant
Washington, D.C.

Robert M. Dillon, A.I.A.

Executive Director
Building Research Advisory Board
National Research Council, NAS

William Dodge, Jr.

Program Planning Specialist
Model Cities Program for District of Columbia

Loren F. Dorman

Executive Vice President
National Lumber and Building Material Dealers Association

John P. Eberhard

Dean and Director
College of Architecture and Environmental Design
State University of New York at Buffalo

Ben Evans

Executive Secretary
Building Research Institute
Building Research Advisory Board
National Academy of Sciences

Harold Finger

Assistant Secretary for Research and Technology, HUD

Harold Forsyth

Executive Secretary
Producers Advisory Committee (PAC)
Producers Council, Inc.
Washington, D.C.

Marvin Friedman

Vice President
S. Ruitenberg & Associates
Washington, D.C.

Seymour Gardner

Manager
Land Sales
The Rouse Company

R. S. Garrett

President
Urban Systems Development Corp.
Arlington, Virginia

Christopher Gebeleine

Urban Affairs Research Committee
National Science Foundation

Sigmund Gerber

Director
Family Housing Standards and Design
Office of the Secretary of Defense (I&L)
Washington, D.C.

Richard R. Geysler

Manager
Public Buildings Section
Portland Cement Association

David Glick

Counsel
Subcommittee on Housing
Committee on Banking and Currency
U.S. House of Representatives

Kingdon Gould, Esq.

Vice President
Parking Management, Inc.
Washington, D.C.

Harvey Hallenbeck, Jr.

Manager
Construction Affairs
Chamber of Commerce of the United States
Washington, D.C.

Irwin Halpern

Director
Policy Analysis Staff, NASA; and
National Goals Research Staff
The White House

Reese Hammond

Special Representative
International Union of Operating Engineers

Richard T. Hanna

U.S. House of Representatives (D-Calif.)

Joseph F. Hennessey

General Counsel
U.S. Atomic Energy Commission

Homer Hoyt

President
Homer Hoyt Associates
(Consultants in Real Estate Economics)

Page Ingraham

Director
State-Local Administration
Appalachian Regional Commission

Raphael G. Kasper

Research Scientist
Program of Policy Studies, GWU

Jack Knetsch

Director
Center for Natural Resources Policy Studies, GWU

Charles LeCraw

General Manager
Construction Marketing
U.S. Steel Corporation

Dorn McGrath

Professor and Chairman
Department of Urban and Regional Planning, GWU

William J. McSorley

Assistant to the President
Building and Construction Trades Department, AFL-CIO

James L. MacPherson

Executive Director
Construction Industry Collective Bargaining Commission
Office of the Secretary
U.S. Department of Labor

Charles Mahaffey

Deputy Chief
Codes and Standards Section
Building Research Division
National Bureau of Standards

James E. Mahoney

Senior Staff Scientist
Program of Policy Studies, GWU

Allen Manville

Assistant Director for Special Studies
Advisory Commission on Intergovernmental Relations

Louis H. Mayo

Vice President for Policy Studies and Special Projects;
Director
Program of Policy Studies in Science and Technology;
Professor of Law, GWU

H. W. Merritt

Assistant Administrator for Research
Urban Mass Transit Administration
Department of Transportation

D. Quinn Mills

Professor of Industrial Relations
Sloan School of Management, MIT

Herbert Millstein

Marketing Sciences Inc.
Washington, D.C.

David Moore

Program Manager
In-Cities Program
Office of the Assistant Secretary for Research and
Technology, HUD

Jerome C. Muys

Assistant General Counsel and Chief
Legal Group
Public Land Law Review Commission
Washington, D.C.

Arthur S. Newburg

Director
Buildings Systems and Technology
Operation Breakthrough, HUD

Wilfred Owen

Senior Fellow
Economics Department
The Brookings Institution

Ronald Phillips

Director
Technology Utilization Division, NASA

Floyd Peterson

Consultant
National Association of Electronic Companies
Washington, D.C.

James Pickard

Director
Program Analysis and Evaluation Staff, HUD

James H. Pickford

Senior Analyst
Advisory Commission on Intergovernmental Relations

Nicholas A. Pollack

Vice President and General Manager
Building Systems Division
Urban Systems Development Corporation

J. K. Pollard

Policy Analyst
Office of Policy, NASA

Herbert B. Quinn

Chief
Research Branch
Sustaining University Program
Office of University Affairs, NASA

James W. Roach

Special Assistant to the Vice President
The MITRE Corporation Westgate Research Lab
McLean, Va.

Thomas F. Rogers

Vice President for Urban Affairs
The MITRE Corporation
McLean, Va.

J. L. Russell

Director
Research and Analysis
Construction Industry Collective Bargaining Commission
U.S. Department of Labor

Robert Schmitt

Robert Schmitt Homes
Cleveland, Ohio

B. A. Schriever

Vice-Chairman
PPS Advisory Committee;
Chairman of the Board
Schriever & McKee Associates, Inc.

John Sexton

Arent, Fox, Kintner, Plotkin, and Kahn
Washington, D.C.

Joseph Sherman

Housing Technology Advisor, HUD

Malcolm Sherman

Vice President (Residential Land Sales)
The Rouse Company
Columbia, Md.

Henry M. Shine, Jr.

Executive Director
President's Council on Youth Opportunity

William Shinnick

Director
NASA Technology Application Center
University of New Mexico

Howard Shuman

Administrative Assistant to Senator William Proxmire (D-Wisc.)

David Siskind

Construction Starts Branch Chief
Construction Statistics Division
Bureau of the Census

Richard E. Stephens

Chief
Management and Administration Branch
Sustaining University Program
Office of University Affairs, NASA

Ralph Taylor

Executive Vice President
Mid-City Developers, Inc.
Washington, D.C.

Kent Watkins

Vice President for Corporate Affairs
Urban Systems Development Corporation
Arlington, Va.

J. A. Weinberg

Chairman of the Board
The Carey-Winston Company

Albert Weinstein

Assistant Director for Research Planning
Office of the Assistant Secretary for Research and
Technology, HUD

Douglas Whitlock, Esq.

Reed, Smith, Shaw & McCloy
Washington, D.C.

Merrill Whitman

Assistant Director
Office of Program Analysis
Division of Reactor Development, AEC

William Woodward

Director
Space Power and Electric Propulsion Division
Office of Advanced Science and Technology, NASA

Gene Wunderlich

Chief
Resource Institutions Branch
Natural Resource Economics Division
U.S. Department of Agriculture

Irving B. Yochelson, Esq.

Crossberg, Yochelson, Brill and Fox
Washington, D.C.

Arthur Zeisel

Deputy Director for Water Resources Research
Office of Science and Technology, HUD

Observers from National Law Center, GWU:

David Hendricks

Assistant Professor of Law
University of Arkansas

Ed Ketchen

LL.M. Candidate
(Land Development Law Class)

J. McGurren

LL.M. Candidate
(Land Development Law Class)

Brian Osby

J.D. Candidate
(Land Development Law Class)

Barbara Wolitz

Special Student
Sociology Department

Raymond Wolitz

LL.M. Candidate
(Land Development Law Class)

9. Seminar Series on
THE SOCIAL RELEVANCE OF SCIENCE AND TECHNOLOGY

Co-Chairmen: John Moeser
Department of Political Science
and Vary Coates
Research Scientist
Program of Policy Studies, GWU

This series of three seminars for graduate students and faculty attempted to provide an interdisciplinary setting for discussion of the opportunities that science/public policy offers to students in the social sciences and humanities for graduate research and for future careers. Discussions were as follows:

1. *Social Relevance of Science and Technology—An Overview*

February 27, 1970—Louis H. Mayo
Vice President for Advanced Policy Studies
Director, Program of Policy Studies, GWU
and Guy Black
Senior Staff Scientist
Program of Policy Studies, GWU
and John Logsdon
Research Scientist
Program of Policy Studies, GWU

2. *The Moral Implications in Technological Development*

April 3, 1970—Victor Ferkiss
Professor of Government
Georgetown University

3. *The Positive Attributes of Technology*

April 24, 1970—Group discussion to wind up series

Participants:

David Aaronson
Ph.D. Candidate in Economics
Ann Benfield
M.A. Candidate in Religion
Virginia Benson
Ph.D. Candidate in Economics
Dennis Brezina
Ph.D. Candidate in American Studies
Robert Brown
Ph.D. Candidate in Political Science
Tae Dong Chung
Ph.D. Candidate in Political Science
Vary T. Coates
Ph.D. Candidate in Political Science
Stanley Cohen
Ph.D. Candidate in Psychology
Bruce Dunning
M.A. Candidate in Sociology
Gene M. Griffith
M.A. Candidate in Philosophy
Robert Griggs
M.A. Candidate in Sociology
Charles S. Harris
Assistant Professor of Sociology, GWU
Jean Intermaggio
Ph.D. Candidate in Psychology
Thelma Levine
Elton Professor of Philosophy, GWU

Donald Leith
M.A. Candidate in Philosophy, GWU

Iona Melstrads
M.A. Candidate in Economics

Warren F. Morriss
M.A. Candidate in Philosophy

James N. Mosel
Professor of Psychology, GWU

Lorin P. Nielson
M.A. Candidate in Philosophy

Benjamin Nimer
Professor of Political Science, GWU

Richard Ostling
M.A. Candidate in Religion

Howard Rees
University Chaplain, GWU

Gordon Rocca
Ph.D. Candidate in Political Science

Alex Rode
Ph.D. Candidate in Psychology

Margaret Schafer
Ph.D. Candidate in Psychology

Frank Segel
Ph.D. Candidate in Economics

Neil Seldman
Ph.D. Candidate in Political Science

Jeff Silver
Undergraduate—Religion

Dwight Steussy
Ph.D. Candidate in Economics

Joseph Tropea
Assistant Professor of Sociology, GWU;
Director
Behavioral Systems Research Project

Paul Vernier
M.A. Candidate in Philosophy

Evelyn Viehman
Ph.D. Candidate in Psychology

Rabbi Samuel Volkman
M.A. Candidate in Religion

Harry E. Yeide
Associate Professor of Religion
Assistant Dean of Columbian College of Arts and
Sciences, GWU

Eileen Zeitz
M.A. Candidate in Sociology

10. Seminar Series on
**APPLICATION OF COMPUTER SIMULATION TECHNIQUES TO SOCIAL AND
POLITICAL DECISION-MAKING**

Series Chairman: Louis H. Mayo

Papers were presented as follows:

1. *Urban Development Modeling*

March 19, 1970—Professor George C. Hemmens
Director, Urban Systems Program
Department of City and Regional Planning
University of North Carolina at Chapel Hill

2. *Simulations in the Consolidation and Utilization of Knowledge about International Relations*

February 18, 1971—Dr. Harold Guetzkow
Visiting Research Scholar
Carnegie Endowment for International Peace, New York;
Professor and Co-Director
International Relations Program, Northwestern University;
Adjunct Professor of International Relations, GWU

Participants:

Guy Black

Senior Staff Scientist, Program of Policy Studies;
Associate Professor of Business Economics, GWU

Robert M. Behr

Senior Staff Member
National Security Council
Executive Office of the President

Frank Bernheisel

Vice President
Ecosystems, Inc.

Robert Best

Staff
Force Structure Department
Research Analysis Corporation

Paul Brace

Director
Application Review Division
Office of New Communities Development, HUD

Henry Brady

Research Associate
Program of Policy Studies, GWU

Glenn Bryan

Director
Psychological Sciences Division
Office of Naval Research
Department of the Navy

Alexander N. Christakis

Director of Research
Doxiadis-System Development Corporation
Washington, D.C.

Tae Dong Chung

Research Associate
Program of Policy Studies, GWU
(Ph.D. Candidate in Political Science)

Joseph F. Coates

Staff Associate
Office of Interdisciplinary Research
National Science Foundation

Vary T. Coates

Research Scientist
Program of Policy Studies, GWU

Kent Curtis

Head
Computer Science and Engineering Section
Computing Activities Division
National Science Foundation

Ed Cushen

Chief
Technical Analysis Division
National Bureau of Standards

Joseph V. Foa

Professor of Engineering
School of Engineering and Applied Science, GWU

Rex S. Garrett

President
Urban Systems Development Corporation

James Gehrig

Staff Director
Senate Committee on Aeronautical and Space Sciences

John Gerba

Regional Planner
Northeast Corridor Transportation Project, DOT

Harold Guetzkow

Visiting Research Scholar
Carnegie Endowment for International Peace
New York;
Professor and Co-Director of International Relations
Program
Northwestern University;
Adjunct Professor of International Relations, GWU

John Hanessian, Jr.

Senior Staff Scientist
(International Studies Group)
Program of Policy Studies in Science and Technology;
Associate Professor of Political Science, GWU

George C. Hemmens

Professor and Director
Urban Systems Program
Department of City and Regional Planning
University of North Carolina
Chapel Hill

Marc Henderson

Senior Consultant
Marketing Sciences Corporation
Washington, D.C.

Guenther Hintze

Research Professor of Electrical Engineering, GWU

Dan Horowitz

Special Assistant to the Director for Academic Relations and
Program Development
Foreign Service Institute
U.S. Department of State

Thomas L. Hughes

President
Carnegie Endowment for International Peace

Charles F. Hutchinson

Deputy Director
Life Sciences
Air Force Office of Scientific Research
Arlington, Virginia

Les Janka

Dean
School of Advanced International Studies
The Johns Hopkins University

Warren R. Johnston

Assistant Chief
Foreign Affairs Division
Congressional Research Service
Library of Congress

William B. Jones

Deputy Assistant Secretary
Bureau of Education and Cultural Affairs
U.S. Department of State

Murray Kamrass

Technical Staff
Institute for Defense Analyses;
President-elect
Washington Operations Research Council

Paul L. Laase

Advisor
Department of International Trade
U.S. Department of State

Robert W. Lamson

Staff
Office of Planning and Policy Studies, NSF

George H. Lawrence

Deputy Director of Behavioral Science
Advanced Research Projects Agency
U.S. Department of Defense
Arlington, Virginia

John M. Logsdon

Research Scientist
Program of Policy Studies in Science and Technology;
Assistant Professor of Public Affairs and Political
Science, GWU

William Lucas

Program Director for Political Science
Division of Social Sciences
National Science Foundation

Joseph B. Margolin

Senior Staff Scientist
Program of Policy Studies in Science and Technology, GWU

James C. Martin, Jr. (USAF)

Chief
Political Military Division
Studies Analysis and Gaming Division
Joint Chiefs of Staff

Louis H. Mayo

Vice President for Policy Studies and Special Projects;
Director of the Program of Policy Studies in
Science and Technology;
Professor of Law, GWU

Joseph A. Navarro

Senior Staff
Urban Mass Transportation Project
(Science and Technology)

Benjamin Nimer

Professor of Political Science and International Affairs, GWU

William A. Niskanen

Assistant Director for Evaluation
Office of Management and Budget

Patrick O'Day

Vice President for Education
Applied Simulations International, Inc.

Kent Parrot (USAF)

Ph.D. Candidate (International Affairs), GWU

Robert Pickett

Physicist
Envirometrics Corporation
Washington, D.C.

Raymond Platig

Director
Office of External Research
U.S. Department of State

Henry Polmer

Student
National Law Center;
Research Assistant
Program of Policy Studies, GWU

Robert E. Pugh

Technical Staff
Advanced Research Department
Research Analysis Corporation

Herbert B. Quinn

Research Branch Chief
Sustaining University Program
Office of University Affairs, NASA

Burton M. Sapin

Dean
School of Public and International Affairs, GWU

Richard Smolka

Professor of Government
The American University

Harold Snyder

Director
International Affairs Seminars
American Friends Service Committee
Washington, D.C.

Louis B. Sohn

Counselor on International Law
Office of Legal Advisor
U.S. Department of State

Richard E. Stephens

Chief
Administrative and Management Research Branch
Sustaining University Affairs Division
Office of University Affairs, NASA

Richard L. Van Wageningen

Training Officer
Office of the Director of Projects
International Bank for Reconstruction and Development

Stephen J. Wayne

Assistant Professor of Political Science, GWU

Arthur L. "Pat" Webster

Deputy Director
Office of Systems Requirements, Plans and Information
Office of the Secretary, DOT

Ernest Weiss

Executive Director
National Transportation Safety Board

Arthur Zachai

Graduate Research Assistant
School of Engineering and Applied Science, GWU

11. Seminar Series on
INTERNATIONAL ASPECTS OF OUTER SPACE

Coordinator: John Hanessian

Papers were presented as follows:

1. *The United Nations' Role in Outer Space*

May 8, 1970—A. Abdel-Ghani
United Nations Secretariat

2. *The Consortium as Model for Future International Cooperation in Space*

June 22, 1970—Richard Mizrack
Assistant to Director
International Agreements Division
COMSAT

3. *Prospects for International Participation in Post-Apollo Programs*

August 6, 1970—Arnold Frutkin
Assistant Administrator for International Affairs
NASA

4. *International Space Cooperation in the Future: Problems and Prospects*

September 29, 1970—Russell Drew
Office of Science and Technology
Executive Office of the President

Participants:

Abdul-Hamid Abdel-Ghani
Chief, Division of Outer Space Affairs
UN Secretariat

Lt. Col. James A. Abrahamson, USAF
National Aeronautics and Space Council
Executive Office of the President

Ward Allen
Deputy Assistant Secretary for International Organization
Affairs
U.S. Department of State

Walter Bailey
Assistant Executive Secretary
Director of Earth Sciences
National Academy of Sciences

Richard Barnes
Office of International Affairs, NASA

Col. Robert M. Behr, USAF
Senior Staff Member, National Security Council Staff

Dr. Clifford Bloch
Education and Human Resources
Technological Assistance Bureau
Agency for International Development

Donald Bowie
Office of Space and Environmental Science Affairs
U.S. Department of State

Professor John W. Brewer
Department of Political Science, GWU

Richard Brown
Office of U.N. Political Affairs
U.S. Department of State

Richard Campbell
Office of Space and Environmental Affairs
U.S. Department of State

Nathaniel B. Cohen
Special Assistant to the Assistant Administrator for Policy
Office of Policy, NASA

William Cohen
Director, International Plans and Programs
Office of International Affairs, NASA

Bert Cowlen
Institute for Public Administration

Paul Dembling
General Counsel
General Accounting Office

Thomas E. Donahue, Jr.
Director
International Agreements Division, COMSAT

Aldon Doud
Department of State

Stephen Doyle
Special Assistant to the Director
Office of Telecommunications Policy
Executive Office of the President

Dr. Russell Drew
Office of Science and Technology
Executive Office of the President

Lester Fero
National Aeronautics and Space Council
Executive Office of the President

Dr. Franco Emilio Fiorio
Scientific Counselor
Embassy of Italy

William Fischer
Research Coordinator
EROS Program
U.S. Geological Survey

Arnold Frutkin
Assistant Administrator for International Affairs, NASA

Eilene Galloway
Specialist
International Relations
Legislative Reference Service
Library of Congress

James J. Gehrig
Staff Director
Senate Committee on Aeronautical and Space Science

William Gevarter
Office of Policy, NASA

Professor Harold Green
National Law Center, GWU

Professor Harold Guetzkow
(Northwestern University)
c/o Carnegie Endowment for International Peace

Frank Hammill
Counsel
House Committee on Science and Astronautics
U.S. Congress

Professor John Hanessian, Jr.
Director
International Studies Group
Program of Policy Studies, GWU

Theodore Heintz
Earth Satellite Corporation

Grant Hilliker
Office of External Research
U.S. Department of State

Professor Robert Jordan
Department of Political Science, GWU

Dr. David W. Keller
Manager
Earth Resources Program
General Electric Company
Valley Forge Space Technology Center

Clarence Kramer
Assistant to the Vice President—International, COMSAT

Dr. Robert W. Lamson
Staff Associate
Office of Planning and Policy Studies
National Science Foundation

Leonard Lederman
Deputy Head
Office of Economic and Manpower Studies
National Science Foundation

S. Benedict Levin
Earth Satellite Corporation

Dr. Talbot Lindstrom
Acting Executive Officer
ISA/Policy Plans and NSC Affairs
Department of Defense

Dr. John Logsdon
Research Scientist
Program of Policy Studies, GWU

William Long
Science and Technology Office
Technical Assistance Bureau
Agency for International Development

Dr. Joseph Margolin
Director
Educational Policy Group
Program of Policy Studies, GWU

Dr. Louis H. Mayo
Vice President for Advanced Policy Studies
Program of Policy Studies, GWU

Stuart H. McIntyre
Officer in Charge of International Security Affairs
Office of U.N. Political Affairs
U.S. Department of State

Richard Mizrack
Assistant to the Director
International Agreements Division, COMSAT

James R. Morrison
Office of International Affairs, NASA

Harland B. Moulton
Research Group
National War College

Dr. Maurice Mountain
Director
Strategic Trade and Disclosure/ISA
U.S. Department of Defense

Henry Myer
Science and Technology Office
Technical Assistance Bureau
Agency for International Development

Professor Benjamin Nimer
Political Science Department, GWU

Robert Packard
Director
Office of Space and Environmental Science Affairs
Bureau of International Scientific and Technological Affairs
U.S. Department of State

Jacques Palgen
Allied Research Corporation, Inc.

Dr. Sidney Passman
Chief
Weapons System Division
Science and Technology Bureau
Arms Control and Disarmament Agency

Joe Pelton
COMSAT

Dr. J. D. Perkinson
Director
Department of Scientific Affairs
Organization of American States

Robert Porter
President
Earth Satellite Corporation

Herb Reis
Assistant Legal Adviser
U.S. Department of State

Dr. Humberto Ricciardi
Specialist for Space Applications
Department of Political and Security Council Affairs
U.N. Secretariat

Edward Risely
Technical Advisor
General Advisory Committee on Arms Control and
Disarmament
Arms Control and Disarmament Agency

D. R. Rodgers
Manager
Missile and Space Field Operations
Defense Programs Division
General Electric Company

Dr. Burton Sapin
Dean
School of Public and International Affairs, GWU

Raymond J. Serradeil
Science Attache
Embassy of France

Dr. S. Fred Singer
Deputy Assistant Secretary for Scientific Programs
U.S. Department of the Interior

Martin Stoller
Director
International Operations
Earth Satellite Corporation

David Strother
Office of International Affairs, NASA

Murray Todd
Executive Secretary
Office of the Foreign Secretary
National Academy of Sciences

Dr. Robert Webber
Deputy Director
Office of Space and Environmental Affairs
U.S. Department of State

Robert I. Widder
Battelle Memorial Institute

12. Seminar Series on
TECHNOLOGY ASSESSMENT IMPLEMENTATION

Co-Chairmen: Ellis Mottur
Senior Staff Scientist
Program of Policy Studies
and Raphael Kasper
Research Scientist
Program of Policy Studies

1. *The Use of Drugs to Control Hyperactivity in Grade School Children*

November 5, 1970—Panelists included:

Charles R. Halpern
Director
Center for Law and Social Policy

and Ellis R. Mottur (Moderator)
Director
Technology Assessment Implementation Project

and Mark N. Ozer
Associate Neurologist and Director
Learning Research Unit
Children's Hospital

and Joseph L. Tropea
Professor
Sociology Department, GWU

and Paul H. Wender
Child Psychiatrist
Laboratory of Psychology
Division of Clinical Behavior Research
National Institute of Mental Health

2. *Problems of Implementing Technology Assessments: The Congressional Context*

December 3, 1970—Hon. George E. Brown, Jr.
Member of Congress

3. *Aircraft Noise Abatement as a Case Study in the Implementation of Technology Assessment*

December 17, 1970—James R. Wright
National Research Council
National Academy of Sciences

4. *Automotive Air Pollution and Problems of Implementation of Technology Assessment*

January 14, 1971—John C. Esposito
Center for the Study of Responsive Law

5. *Policy Alternatives for Environmental Management*

March 23, 1971—Robert U. Ayres
Vice President
International Research and Technology Corporation

6. *Limitations on Implementation of Technology Assessment*

April 22, 1971—Professor Harold P. Green
Director of Law, Science and Technology Program, GWU

7. *The Role of the Legal System in Society's Implementation of Technology Assessment*

May 6, 1971—Professor Milton Katz
Director of International Legal Studies
Harvard University Law School

8. *The Role of Citizen Action in the Implementation of Technology Assessment*

May 25, 1971—William Michael Kitzmiller
Executive Director, Grassroots

Participants:

George Alderson

Legislative Director
Friends of the Earth

Frederick R. Anderson

Editor-in-Chief
Environmental Law Reporter

Peter Anderson

Wisconsin's Environmental Decade

Robert U. Ayres

Vice President
International Research and Technology Corporation

Bodo Bartocha

Deputy Executive Secretary of the Executive Council
National Science Foundation

Kenneth Bass

Legislative Assistant to Congressman Emilio Q. Daddario

J. Franklin Bernheisel

Vice President
Ecosystems, Inc.

Eugene Bierley

Assistant to Congressman Charles A. Mosher

Guy Black

Professor of Business Economics, GWU

Frederick W. Bowditch

Director
Emission Control
Engineering Staff
General Motors Technical Center

David S. J. Brown

Legislative Assistant to Congressman Paul N. McCloskey, Jr.

George E. Brown

Congressman

James M. Brown

Professor of Law, GWU

Robert G. Brown

Chairman
Department of Sociology, GWU

Carl W. Bruch

Chief
Bacteriological Branch
Division of Microbiology
Bureau of Science
Food and Drug Administration

John L. Buckley

Technical Assistant
Office of Science and Technology
Executive Office of the President

Richard A. Carpenter

Chief
Environmental Policy Division
Congressional Research Service
Library of Congress

Carolyn Coates

Representing: The Reverend James E. Coates
Vice President
Board of Education
District of Columbia

Joseph F. Coates

Special Assistant to the Assistant Director for
Research Applications
National Science Foundation

Vary T. Coates

Research Scientist
Program of Policy Studies in Science and Technology, GWU

John J. Coffey, Jr.

Senior Associate for Natural Resources and
Environmental Quality
Community and Regional Development Group
Chamber of Commerce of the United States

Victor Cohn

Science Editor
The Washington Post

Donald E. Cunningham

Special Assistant for Assessment Activities
Office of the Director
National Science Foundation

John M. Cunningham

Center for Law and Social Policy

Clarence H. Danhof

Deputy Director
Science and Technology Project
The Council of State Governments

Alan P. Dean

Executive Director
Anacostia Citizens and Merchants, Inc.

Paul G. Dembling

General Counsel
General Accounting Office

Jesse C. Denton

Special Assistant to the Assistant Director for
Research Applications
National Science Foundation

Susan Doscher

Research Associate
Program of Policy Studies in Science and Technology, GWU

Louise C. Dunlap

Assistant Legislative Director
Friends of the Earth

Steven Ebbin

Senior Associate
Environmental Studies Board
National Academy of Sciences

Charles Elkins

Special Assistant to the Administrator
Environmental Protection Agency

John C. Esposito

Center for Study of Responsive Law

Carolyn B. Essig

Research Assistant
Program of Policy Studies in Science and Technology, GWU

Gordon Everett

Deputy Assistant to the Administrator for Standards and
Enforcement
Environmental Protection Agency

Michael Faber

Federal Communications Commission
(brought by D. Ramey)

Dan H. Fenn, Jr.

President
Center for Business-Government Relations;
Lecturer
Harvard Business School

Roger G. Flynn

Manager
Domestic Operations
Air Transport Association

Peter N. Gammelgard

Senior Vice President
Public and Environmental Affairs
American Petroleum Institute

David T. Goldman

Assistant to the Director
National Bureau of Standards

Philip A. Graham

Research Associate
Program of Policy Studies in Science and Technology, GWU

Harold P. Green

Director
Law, Science and Technology Program, GWU

Leon Green, Jr.

Executive Secretary
Defense Science Board
Office of the Director of Defense Research and Engineering

Daniel S. Greenberg

Publisher
Science and Government Report

Lawrence M. Greenberg

Director of Drug Studies
Hyperactive Children's Clinic
Hillcrest Children's Center

Maria H. Grimes

Environmental Policy Division
Congressional Research Service
Library of Congress

Richard Grundy

Professional Staff Member
Subcommittee on Air and Water Pollution
Senate Committee on Public Works

Wayne R. Gruner

Senior Staff Associate (Planning)
Office of the Assistant Director for Research
National Science Foundation

Charles R. Halpern

Director
Center for Law and Social Policy

Irwin P. Halpern

Senior Research Associate
National Goals Research Staff
The White House
(presently)
Research Director
President's Advisory Council on Management Improvement

Gladys G. Handy

Office of Interdisciplinary Research
National Science Foundation
(presently)
Staff Associate
Division of Social Systems and Human Resources
Research Applications Directorate
National Science Foundation

Carolyn Harmon

Office of Child Development
Department of Health, Education, and Welfare

David Hawkins

Stern Community Law Firm

Frank Heller

Policy Analyst
National League of Cities
U.S. Conference of Mayors
Center for Policy Analysis

M. Frank Hersman

Head
Office of Intergovernmental Science Programs
National Science Foundation

William J. Hoff

General Counsel
National Science Foundation

Mary Holman

Acting Director
Natural Resources Policy Center, GWU

John D. Holmfeld

Analyst
Science Policy Research Division
Congressional Research Service
Library of Congress

Isaac H. Hoover

Deputy Director
Office of Aviation Policy and Plans
Federal Aviation Administration

Malcolm C. Hope

Associate Director for Environmental Health
Health Services Administration
Department of Human Resources
District of Columbia

Layne D. Hoppe

Assistant Professor
School of Government
American University

Franklin P. Huddle

Specialist in Science and Technology
Science Policy Research Division
Congressional Research Service
Library of Congress

Louise Hutchinson

Homemaker and Parent

Phineas Indritz

Chief Counsel
Subcommittee on Conservation of Natural Resources
Committee on Government Operations

Philip L. Johnson

Deputy Head
Office of Interdisciplinary Research
National Science Foundation
(presently)

Acting Director
Division of Environmental Systems and Resources
National Science Foundation

Courtney Justice

Special Assistant to the Administrator
Environmental Protection Agency

Valarie Justice

(Mrs. Courtney Justice)

Raphael G. Kasper

Research Scientist
Program of Policy Studies in Science and Technology, GWU

Leon Kass

Executive Secretary
Committee on the Life Sciences and Social Policy
National Academy of Sciences

Milton Katz

Director
International Legal Studies
Harvard University Law School

George R. Kelly

President
Ecosystems, Inc.

James F. King, Jr.

(no affiliation)

Lynn Kitzmiller

e. p. press

Wm. Michael Kitzmiller

Executive Director
Grassroots

Ralph Lapp

Senior Member
Quadri-Science, Inc.

Saul Levine

Assistant Director
Office of Environmental Affairs
Atomic Energy Commission
National Institute of Mental Health

Harvey Lieber
Academic Director
Washington Semester Program
American University

Ronald S. Lipman
Psychopharmacology Research Branch

John M. Logsdon
Assistant Professor
Political Science Department, GWU

Louis V. Lombardo
American University

William Lucas
Executive Secretary to the Assistant Director for
Research Applications
National Science Foundation

James E. Mahoney
Senior Scientist
Program of Policy Studies in Science and Technology, GWU
(presently)
Program Director
President's Advisory Counsel for Management Improvement

Joseph B. Margolin
Director
Educational Policy Group
Program of Policy Studies in Science and Technology, GWU

Louis H. Mayo
Vice President for Policy Studies, GWU

Dorn C. McGrath
Chairman
Department of Urban and Regional Planning, GWU

Mitchell Melich
Solicitor
Department of the Interior

James Michael
Center for Study of Responsive Law

Marion Misch
Research Scientist
Educational Policy Group
Program of Policy Studies in Science and Technology, GWU

James W. Moorman
Senior Attorney
Center for Law and Social Policy

Charles A. Mosher
Congressman

Laurence I. Moss
Executive Secretary
Committee on Public Engineering Policy
National Academy of Engineering

Ellis R. Mottur
Director
Technology Assessment Implementation Project
Program of Policy Studies in Science and Technology, GWU

Sumner Myers
Director
Techno-Urban Studies
Institute of Public Administration

K. Guild Nichols, Jr.
Staff Consultant
Committee on Science and Astronautics
U.S. House of Representatives

Clarence C. Ohlke
Director
Office of Government and Public Programs
National Science Foundation

Mark N. Ozer
Associate Neurologist and Director
Learning Research Unit
Children's Hospital

Frank M. Potter, Jr.
Environmental Clearinghouse

Drucilla Ramey
Stern Community Law Firm

Glenda Reed
Legislative Assistant to Congressman John W. Davis

Arnold W. Reitze, Jr.
Director
Environmental Law Program, GWU

Bob Richard
Administrative Assistant to Congressman John W. Davis

Philip C. Ritterbush
Chairman
Organization Response

Leonard Rodberg
Resident Fellow
Institute for Policy Studies

Jill Schuker
Assistant to Congressman Michael J. Harrington

Charles S. Sheldon, III
Chief
Science Policy Research Division
Legislative Reference Service
Library of Congress

Susan C. Simon
International Research and Technology Corporation

William Simons
President
District of Columbia Teachers' Union

Daniel Singer
Attorney at Law
Strasser, Spiegelberg, Fried, Frank and Kampelman

Joel A. Snow
Deputy Assistant Director for Research Applications
National Science Foundation

Charles W. T. Stephenson
Deputy Assistant General Counsel
Bureau of East Asia
Agency for International Development
Department of State

Joseph W. Stickle
National Aeronautics and Space Council
Executive Office of the President

Jeremy J. Stone
Director
Federation of American Scientists

Gabor Strasser
Technical Assistant
Office of Science and Technology

Edward D. Studholme
Research Associate
Department of Urban and Regional Planning, GWU

Bruce J. Terris
Senior Attorney
Center for Law and Social Policy

Joseph L. Tropea
Assistant Professor
Department of Sociology, GWU

Terry A. Trumbull
Institute of Public Administration

E. Winslow Turner
General Counsel
Subcommittee on Intergovernmental Relations
Committee on Government Operations
U.S. Senate

Franklin Wallick
Editor
Washington Report
United Auto Workers

J. Frederick Weinhold
Office of Science and Technology
Executive Office of the President

Paul H. Wender
Child Psychiatrist
Laboratory of Psychology
Division of Clinical Behavior Research
National Institute of Mental Health

John S. Winder
Executive Director
Metropolitan Washington Coalition for Clean Air

Robert Witherspoon
Senior Staff
Institute of Public Administration

Charles Witter
Assistant to Congressman Cornelius E. Gallagher

James R. Wright
Secretary
Advisory Committee on Transportation Noise
National Research Council
National Academy of Sciences

Edward F. Zigler
Director
Office of Child Development
Department of Health, Education, and Welfare

13. Seminar on
OPTIMUM POPULATION

December 2, 1970

Speaker: Honorable S. Fred Singer
Deputy Assistant Secretary for Scientific Programs
U.S. Department of the Interior

Participants:

Raymond L. Bisplinghof
Deputy Director
National Science Foundation

Henry E. Brady
Research Assistant
Program of Policy Studies, GWU

Jack M. Carlson
Assistant to the Deputy Director
Office of Management and Budget

Vary T. Coates
Research Scientist
Program of Policy Studies, GWU

Carol Crawford
Legislative Assistant
Office of Senator Bob Packwood (R-Ore.)

Jerry W. Combs
Chief
Behavioral Sciences Branch
Center for Population Research
National Institute of Child Health and Human Development

Carol T. Foreman
Chief Information Liaison
Center for Family Planning Program Development
Planned Parenthood—World Population

David L. Gamon
Deputy Special Assistant to the Secretary for
Population Matters
U.S. Department of State

Alvaro Garcia-Pena
Vice President
Population Reference Bureau

Louis M. Hellman
Deputy Assistant Secretary for Population Affairs
Department of Health, Education, and Welfare

Hendrik S. Houthakker
Member
President's Council of Economic Advisers

Phineas Indritz
Chief Counsel
Subcommittee on Conservation and Natural Resources
U.S. House of Representatives

Robert W. Lamson
Staff Associate
Office of Planning and Policy Studies
National Science Foundation

Hans Landsberg
Director
Appraisal Program
Resources for the Future, Inc.

Congressman Paul N. McCloskey
(R-Calif.)

Louis H. Mayo
Vice President for Policy Studies and Special Projects;
Director
Program of Policy Studies in Science and Technology, GWU

Arthur S. Miller
Professor of Law, GWU

Mary Mogee
Graduate Research Assistant
International Studies Group
Program of Policy Studies in Science and Technology, GWU

Congressman Charles A. Mosher
(R-Ohio)

Ellis Mottur
Director
Technology Assessment Implementation Project
Program of Policy Studies in Science and Technology, GWU

Keir Nash
Senior Political Scientist
President's Commission on Population Growth and the
American Future

Robert Park, Jr.
Deputy Director
President's Commission on Population Growth and the
American Future

Robert C. Richardson
Senior Associate
Schlreiver & McKee Associates
Arlington, Va.

Robert Ridker
Director
Population Studies Program
Resources for the Future, Inc.

James A. Rose, Jr.
Consultant
Westinghouse Learning Corporation
Bladensburg, Md.

Douglas Ross
Legislative Assistant
Office of Senator Joseph D. Tydings (D-Md.)

Jean Ruffin
Research Scientist
Program of Policy Studies, GWU

Richard Schisler
Special Assistant to Senator-elect Robert Taft (R-Ohio)

S. Fred Singer
Deputy Assistant Secretary for Scientific Programs
U.S. Department of the Interior

Senator Joseph D. Tydings
(D-Md.)

Walter N. Walmsley
Consultant
Population Crisis Committee

Quentin M. West
Administrator
Foreign Economic Development Service
U.S. Department of Agriculture

Charles F. Westoff
Executive Director
President's Commission on Population Growth and the
American Future

Gooloo Wunderlich
Demographer
Office of Population Affairs
Department of Health, Education, and Welfare

14. Seminar on
REGAINING THE POLICY INITIATIVE IN THE MODERN UNIVERSITY

December 16, 1971

Speaker: Philip C. Ritterbush
Chairman
Organization: :Response

Participants:

Guy Black

Senior Staff Scientist
Program of Policy Studies;
Associate Professor of Business Economics, GWU

Robert A. Brooks

Deputy Under Secretary
The Smithsonian Institution

John J. Corson

Chairman
Fry Consultants, Inc.

Richard W. C. Falknor

Special Assistant to Congressman Thomas Foley (D-Wash.)

Hendrik Gideonse

Subcommittee on Executive Reorganization and
Government Research
Senate Committee on Government Operations

Martin A. Kramer

Director
Higher Education Planning
Office of the Assistant Secretary for Planning and Evaluation
Department of Health, Education, and Welfare

Louis H. Mayo

Vice President for Policy Studies;
Director
Program of Policy Studies;
Professor of Law, GWU

Harold Orlans

Senior Fellow
The Brookings Institution

David E. Ryer

Special Assistant to the Director
National Science Foundation

Philip Scribner

Assistant Professor
Philosophy and Religion
American University

Ralph Widner

Director
Center for the Study of Contemporary Issues
Ohio State University

Douglas Trout

President
Douglas Trout Associates

15. Seminar Series on
TECHNOLOGY ASSESSMENT METHODOLOGY

Papers were presented as follows:

1. *Generating Social Impact Scenarios, A Key Step in Making Technology Assessment Studies*

January 20, 1972—Martin V. Jones
The MITRE Corporation

2. *Design Evaluation in Technology Assessment Illustrated by Auditory Impedance and Sound Distribution Problems*

March 9, 1972—John F. Halldane
Environmental Systems Consultant
Derwood, Md.

3. *Planning and Programing in the Soil Conservation Service*

May 18, 1972—Roy M. Gray
Program Planning Division
Soil Conservation Service
U.S. Department of Agriculture

Participants:

Betsy Amin-Arsala

Research Associate
Program of Policy Studies, GWU

James R. Balsley

Assistant Director for Research
U.S. Geological Survey

Terry Barnett

Legislative Assistant
Office of Senator Charles Mathias

Stanley Berman

Budget Examiner
Natural Resources Division
Office of Management and Budget

Clifford Berg

Management Analyst
Office of Management and Budget
Executive Office of the President

Guy Black

Senior Staff Scientist
Program of Policy Studies, GWU

Clark Blake

Staff Geologist
U.S. Geological Survey

Bruce Blanchard

Director
Office of Environmental Project Review
U.S. Department of the Interior

John E. Blodgett

Analyst
Environmental Policy Division
Congressional Research Service
Library of Congress

James M. Brown

National Law Center, GWU

Harold Bullis

Research Analyst
Science Policy Research Division
Congressional Research Service
Library of Congress

Joseph M. Carlson

Chief
Dissemination and Program Evaluation Division, NASA Hqts.

Rosemary Chalk

Research Assistant in Science and Technology
Congressional Reference Service
Library of Congress

Vary T. Coates

Research Scientist
Program of Policy Studies, GWU

Edward Cornish

President
The World Future Society

Elizabeth Cuadra

Deputy for Program Development
Office of Noise Abatement and Control
U.S. Environmental Protection Agency

Lawrence F. Cunningham

Strategic Planner
Office of Systems Analysis and Information
U.S. Department of Transportation

Harold F. Davidson

Physical Scientist
Office of Chief of Research and Development
U.S. Department of the Army

William A. Drevo, A.I.A.

Planning Consultant

Steven Ebbin

Senior Staff Scientist
Program of Policy Studies, GWU

Nancy Ebersole

Program Analyst
Office of Systems Analysis and Information
U.S. Department of Transportation

Jack Ebetino

Program Analyst
Office of Planning and Analysis
U.S. Atomic Energy Commission

Terry Elkins

Office of Noise Abatement and Control
Environmental Protection Agency

William A. Fischer

Research Associate
Program of Policy Studies, GWU

G. L. Fisher

Program Analyst
Analysis and Evaluation Branch
Office of the Associate Director for Planning and Evaluation
National Institutes of Health
Department of Health, Education, and Welfare

Daniel Flynn

Chief
Applied Acoustics and Illumination Section
Sensory Environment Branch
Building Research Division
National Bureau of Standards
U.S. Department of Commerce

Bill Goldbeck

Special Assistant to the Assistant Secretary for
Research and Technology
Department of Housing and Urban Development

James G. Gross

Program Manager
Office of Advanced Ship Development
Maritime Administration
U.S. Department of Commerce

Roy M. Gray

Program Analyst
Program Planning Division
Soil Conservation Service
U.S. Department of Agriculture

John F. Halldane

Environmental Systems Consultant
Derwood, Md.

Walter A. Hahn

Senior Specialist in Science and Technology
Congressional Research Service
Library of Congress

Frank Hansing

Director
Office of University Affairs, NASA

Guenther Hintze

School of Engineering and Applied Science, GWU

Phineas Indritz

Chief Counsel
Subcommittee on Conservation and Natural Resources
House Committee on Government Operations

Martin V. Jones

Staff
The MITRE Corporation
McLean, Va.

Raphael G. Kasper

Research Scientist
Program of Policy Studies, GWU

Thomas J. Kennedy, Jr.

Associate Director for Program Planning and Evaluation
National Institutes of Health

David M. Kiefer

Senior Editor
Chemical & Engineering News

Robert W. Lamson

Staff Associate
Science Policy Research Section
National Science Foundation

Leonard Lederman

Deputy Director
Office of Exploratory Research and Problem Assessment
National Science Foundation

Howard J. Lewis

Director
Office of Information
National Academy of Sciences

Joseph B. Margolin

Senior Staff Scientist and Director
Educational Policy Group
Program of Policy Studies, GWU

Milton Marney

Research Associate
Lambda Corporation
Arlington, Va.

David F. Mayo

GWU

Louis H. Mayo

Vice President
Program of Policy Studies and Special Projects;
Director
Program of Policy Studies;
Professor of Law, GWU

Stedman Noble

Mathematical Economist
International Research and Technology Corporation

Paul N. Romani

Research Associate
Program of Policy Studies, GWU

Glenn Schweitzer

Director
Office of Science and Technology, AID
U.S. Department of State

Cora M. Siddayao

Research Associate
Program of Policy Studies, GWU

Alan R. Siegel

Director
Environmental Factors and Public Utilities Division
Office of the Assistant Secretary for
Research and Technology
Department of Housing and Urban Development

Murray Turoff

Operations Research Analyst
Office of Information and Analysis, OEP
Executive Office of the President

Kenneth Webb

Senior Researcher
The Urban Institute

John J. Zimmerman

Research Assistant
Program of Policy Studies, GWU

16. Seminar on

**INFLUENCE OF 'SCIENTIFIC' DATA ON DECISIONAL BEHAVIOR IN
CONTEXTS REQUIRING THE EVALUATION OF THE SOCIAL COSTS OF
ENVIRONMENTAL NOISE INTRUSION**

April 2, 1972

Speaker: Louis H. Mayo

Participants:

Tod Anuskiewicz

Biological Sciences Communication Project, GWU

James M. Brown

Professor of Law
National Law Center, GWU

Herbert N. Cantor

Project Director
Public Technology, Inc.

Richard L. Chapman

National Academy of Public Administration

Vary T. Coates

Program of Policy Studies, GWU

Elizabeth Cuadra

Deputy for Program Development
Office of Noise Abatement and Control
Environmental Protection Agency

Susan Doscher

Intergovernmental Science and Technology Program
Science Policy Research Division
Library of Congress

Bill Goldbeck

Special Assistant to the Assistant Secretary for
Research and Technology
Department of Housing and Urban Development

M. Frank Hersman

Intergovernmental Science Programs
National Science Foundation

John D. Holmfeld

House Committee on Science and Astronautics
U.S. Congress

Louis H. Mayo

Vice President for Policy Studies and Special Projects;
Professor of Law;
Director
Program of Policy Studies, GWU

Alfred A. Perry

Director
Urban Management Systems
President's Advisory Council on Management Improvement
Office of Management and Budget

Peter W. Powell

Legislative Counsel
Senate Commerce Committee
U.S. Congress

John O. Powers

Chief Environmental Scientist
Office of Environmental Quality
Federal Aviation Agency

Howard C. Reese

Program of Policy Studies, GWU

Arnold W. Reitze

Director
Environmental Law Program, GWU

Clark Sessions

Industrial Engineer
Headquarters Defense Supply Agency
Department of Defense

Cora Siddayao

Program of Policy Studies, GWU

Alan R. Siegel

Director
Environmental Factors and Public Utilities Division
Research and Technology Office
Department of Housing and Urban Development

John J. Zimmerman

Program of Policy Studies, GWU

17. JOINT SYMPOSIUM ON TECHNOLOGY ASSESSMENT: A FUTURE ORIENTED POLICY TOOL

June 5, 1972

Co-sponsored by the Program of Policy Studies with
The Institute of Management Sciences,
and The World Future Society

Symposium Coordinator: Vary T. Coates

Symposium Committee Co-Chairmen:

WFS	Joseph Coates, National Science Foundation
TIMS	Kenneth Gordon, Resource Management Corporation
PPSST	Raphael Kasper

Speakers:

Perspectives on Technology Assessment: What it is and Why it is Important

Professor Edward Wenk
University of Washington, Seattle
(formerly Chief of Science Policy Research Division
Congressional Research Service)

Institutional Arrangements for Technology Assessment

- *Survey of Government Experience*
Vary T. Coates
Program of Policy Studies, GWU
- *The Business Point of View*
Carl Madden
Chief Economist
U.S. Chamber of Commerce
- *Congressional Actions*
Walter Hahn
Science Policy Research Division
Library of Congress
- *Environmental Impact Statements*
David Aggerhold
U.S. Army Corps of Engineers

The Lawyer's Interface with Expanding Technology

Professor Harold Green
National Law Center, GWU

Methodology for Technology Assessment—Two Views

Selwyn Enzer
Institute for the Future; and

James Balsley
U.S. Geological Survey

Recent Exemplary Assessments:

- *Violence on TV*
George Comstock
RAND Corporation
(formerly with the Surgeon General's Scientific Advisory Committee)
- *Alternatives to the Internal Combustion Engine*
Douglas Harvey
Hittman Associates
- *Expansion of Kennedy Airport*
Steven Ebbin
Program of Policy Studies, GWU

An Exercise in Technology Assessment: A Workshop

participation under direction of Joseph Coates
National Science Foundation

18. Seminar Series on
UNITED STATES NATIONAL GOALS AND TECHNOLOGICAL STRATEGY

Series Coordinator: John M. Logsdon

Papers were presented as follows:

1. *Current U.S. Policy for Science and Technology*

September 26, 1972—Edward David
Science Adviser to the President

2. *U.S. Technological Strategy: Alternatives for the 1970's*

November 2, 1972—J. Herbert Hollomon
Director
Center for Policy Alternatives
Massachusetts Institute of Technology

3. *Science Policy in an Era of Technological Strategy*

December 7, 1972—Philip Handler
President
National Academy of Sciences

4. *Public Technology: Promise and Problems*

January 15, 1973—John Mock
Science Adviser to the Governor of Georgia

5. *Federal Support of Civilian Technology: Theory versus Practice*

February 22, 1973—George Eads
Department of Economics, GWU

6. *U.S. Technology: Policy Issues*

March 28, 1973—Michael Boretsky
Senior Policy Analyst
Department of Commerce

7. *The Federal Government and Social Research and Development*

April 26, 1973—Roger Levien
Director
Washington Domestic Programs
The RAND Corporation

Seminar Participants:

Edward Allen

Deputy Assistant Secretary for International
Economic Research
Department of Commerce

Frederick Anderson

Editor-in-Chief
Environmental Law Reporter

Kathryn Arnow

Science Resources Studies
National Science Foundation

Peter Bankson

Graduate Student, GWU

Claude Barfield

National Journal

James Barry

Graduate Student, GWU

Michael Bass

Graduate Student, GWU

Miriam Bazon

Graduate Student, GWU

David Beckler

Assistant to the Director
Office of Science and Technology

Johan Benson

American Institute of Aeronautics and Astronautics

Helen Berkowitz

School of Public and International Affairs, GWU

Guy Black

Program of Policy Studies in Science and Technology, GWU

William Boesman

Science Policy Research Division
Library of Congress

Ihor Bohachevsky

Bell Labs

Michael Boretsky

Senior Policy Analyst
U.S. Department of Commerce

Carroll Brickenkamp

Office of Programs
National Bureau of Standards

Edward Burger

Office of Science and Technology
Executive Office of the President

Steve Burks

Department of Political Science, GWU

Barbara Burns

National R&D Assessment Program
National Science Foundation

Billy Caldwell

Office of Science and Technology
Executive Office of the President

Steven Carhart

Energy Policy Research Project
Ford Foundation

Marshall Carter

Graduate Student, GWU

Rosemary Chalk

Science Policy Research Division
Library of Congress

Richard Chapman

Senior Research Assistant
National Academy of Public Administration

Sue Coady

Science Resource Studies
National Science Foundation

Joseph Coates

RANN Program
National Science Foundation

Vary Coates

Program of Policy Studies in Science and Technology, GWU

Deborah Cobin

Office of International Programs
National Science Foundation

Nathaniel Cohen

Office of Policy Analysis, NASA

Lynda Connor

Management Analysis Office
National Science Foundation

Ruth Craig

Graduate Student, GWU

John Cummins

Graduate Student, GWU

W. Edward Cushen

Office of Intergovernmental Science Programs
National Science Foundation

Lawrence Dash

Science Resource Studies
National Science Foundation

Diane Davenny

National R&D Assessment Program
National Science Foundation

Stanley Dolins

Science Resource Studies
National Science Foundation

Susan Doscher

Science Policy Research Division
Library of Congress

George Eads

Department of Economics, GWU

Steven Ebbin

Program of Policy Studies in Science and Technology, GWU

Helene Ebenfield

Science Resources Studies
National Science Foundation

David Elliott

National Security Council

Lloyd Elliott

President, GWU

Robert Ehrhardt

Graduate Student, GWU

Lawrence Fabian

Brookings Institution

James Falk

Department of Operations Research, GWU

Mark Frankel

Program of Policy Studies in Science and Technology, GWU

Ozmund Fundingsland

Technology Advancement
General Accounting Office

Kenneth Gayer

RANN Program
National Science Foundation

Peter Goldschmidt

University of California
Washington Office

Joanne Gorman

Graduate Student, GWU

Harold Glaser

Deputy Director for Science and Technology
Office of National R&D Assessment
National Science Foundation

Harold Green

Director
Law, Science and Technology Program, GWU

Daniel Greenburg

Science and Government Report

Donald Gross

School of Engineering and Applied Science, GWU

Walter Hahn

Senior Specialist in Science and Technology
Library of Congress

John Hanessian

RANN Program
National Science Foundation

John H. Hawes

Graduate Student, GWU

M. Frank Hersman

Head
Office of Intergovernmental Science Programs
National Science Foundation

Ellen Hoff

Communications Satellite Corporation

John Holmfeld

Science Policy Consultant
House Committee on Science and Astronautics

Phillip Johnson

RANN Program
National Science Foundation

Raphael Kasper

Program of Policy Studies in Science and Technology, GWU

Erasmus Kloman

National Academy of Public Administration

Genevieve Knezo

Science Policy Research Division
Library of Congress

Donald J. Krysakowski

Graduate Student, GWU

David Lakamp

Science Information Exchange

Robert Lamson

RANN Program
National Science Foundation

Carolyn Landis
EDUCOM
Princeton, New Jersey

Hugh Leblanc
Department of Political Science, GWU

Leonard Lederman
Director
National R&D Assessment Program
National Science Foundation

Edward Lehan
Office of Intergovernmental Science Programs
National Science Foundation

Arnold Leibowitz
Office of Technical Assistance
Economic Development Administration
U.S. Department of Commerce

Will Lepkowski
McGraw-Hill Publications

Roger Levien
Director
Washington Domestic Programs
The RAND Corporation

Jordan Lewis
Director
Applied Technology
Battelle Memorial Institute

Harold Liebowitz
Dean
School of Engineering and Applied Sciences, GWU

Basil Littin
Director of Public Affairs
U.S. Department of Commerce

John M. Logsdon
Director
Graduate Program in Science, Technology and
Public Policy, GWU

Hugh Loweth
Office of Management and Budget
Executive Office of the President

C. Ronald Lowry
Vice President
Aerospace Industries Association of America, Inc.

Hylan Lyon
Bureau of International Scientific and Technological Affairs
U.S. Department of State

Alan McAdams
School of Business Administration
Cornell University

William McGlashan
Special Assistant to George Shultz

Kay McKeough
Graduate Student, GWU

Robert McKibben
Office of Policy Development
U.S. Department of Commerce

Louis Mayo
Director
Program of Policy Studies in Science and Technology, GWU

Michael Miller
U.S. Department of Transportation

Thomas Mills
Science Resource Studies
National Science Foundation

Mary Ellen Mogee
National R&D Assessment Program
National Science Foundation

Ellis Mottur
Office of Senator Edward M. Kennedy
U.S. Senate

Robert Multauf
Senior Scientific Scholar
The Smithsonian Institution

Edward Murphy
Electronics Industry Association

Micah Naftalin
Committee on Public Engineering Policy
National Academy of Engineering

Jack Nargil
Graduate Student, GWU

Henry Nau
Department of Political Science, GWU

Paul O'Day
Deputy Director
Bureau of Competitive Assessment and Business Policy
U.S. Department of Commerce

Harold Orlans
The Brookings Institution

Sidney Passman
Science Policy Research Section
National Science Foundation

Andrew Pettifor
National R&D Assessment Program
National Science Foundation

Rolf Piekarz
National R&D Assessment Program
National Science Foundation

Arthur Reetz
NASA

Robert Richard
Office of Congressman John Davis
U.S. House of Representatives

David Roessner
National R&D Assessment Program
National Science Foundation

Thomas Rogers
Consultant

Hal Rubin
Technology Advancement
General Accounting Office

Charles Ruttenberg
School of Government and Public Administration
American University

Burton M. Sapin
Dean
School of Public and International Affairs, GWU

Dennis Schiffel
National R&D Assessment Program
National Science Foundation

Charles Sheldon
Chief
Science Policy Research Division
Library of Congress

Nozar Singpurwalla
Department of Operations Research, GWU

Alan Skaggs
Aerospace Industries Association

Joel Snow
Deputy Assistant Director for Research Applications
National Science Foundation

Donald H. Steininger
Deputy Director
Science and Technology
Central Intelligence Agency

David Sternlight
Deputy Director
Office of Policy Development
U.S. Department of Commerce

Guyford Stever

Director
National Science Foundation

Charles Stewart

Department of Economics, GWU

Jeremy J. Stone

Director
Federation of American Scientists

Ted Suranyi-Unger

Department of Economics, GWU

Albert Teich

Policy Institute
Syracuse University Research Corporation

Wesley Tennant

Program of Policy Studies in Science and Technology, GWU

Michael Terpak

Voice of America
United States Information Agency

Terrance Troy

Experimental Technology Incentives Program
National Bureau of Standards

Mark Tucker

R&D System Task Force
National Institute of Education

Thomas Ubois

National R&D Assessment Program
National Science Foundation

David Wald

Graduate Student, GWU

Raymond J. Waldmann

Staff Assistant to the President
Domestic Council

June Wing

Graduate Student, GWU

Linda Yelton

Program of Policy Studies and Technology, GWU

James Zwolenik

Science Resource Studies
National Science Foundation

19. Seminar Series on
TECHNOLOGY AND PUBLIC POLICY

Coordinator: Vary T. Coates

Papers were presented as follows:

1. *Technology and Public Policy: Highlights of the Report*

November 29, 1972—Vary T. Coates
Senior Staff Scientist
Program of Policy Studies, GWU

Reply to remarks: Jerry D. Ward
Director
Office of R&D Policy
Systems Development and Technology
Department of Transportation

2. *Technology Assessment in Transportation*

January 18, 1973—Joseph Coates
Program Manager
Office of Exploratory Research and Problem Assessment
National Science Foundation

and Steven Maimon
Technical Planner
Office of Technical Planning and Financial Analysis
U.S. Post Office Department

3. *Toward a National Energy Policy*

February 27, 1973—Monte Canfield
Deputy Director
Ford Foundation Energy Policy Project

Participants:

James Akin

Director
Office of Fuels and Energy
U.S. Department of State

Betsy Amin-Arsala

Research Associate
Program of Policy Studies, GWU

Robert Anthony

Science Liaison
Bendix Aerospace Division

Holt Ashley

Director
Office of Exploratory Research and Problem Assessment
National Science Foundation

Richard Baker

Advanced Material Concepts Agency
U.S. Department of Defense

Arthur J. Balek

Community Effects Staff
Office of Program and Policy Planning
Federal Highway Administration
U.S. Department of Transportation

Gerald O. Barney

Staff Member
Council on Environmental Quality

Bodo Bartocha

Office of National and International Programs
National Science Foundation

Douglas C. Bauer

White House Fellow
Special Assistant to Secretary of Transportation Volpe

David Beckler

Executive Assistant to the Director of Science and Technology
Executive Office of the President

James M. Beggs

Under Secretary of Transportation
U.S. Department of Transportation

Charles M. Billingsley

Program Analysis and Control
Office of Research and Development
Federal Highway Administration

Guy Black

Senior Staff Scientist, Program of Policy Studies, GWU

Fred Bowen

Executive Assistant to Deputy Associate Administrator, A.S.T.
NASA

Steven Carhart

Ford Foundation Energy Policy Project

John Carrell

Office of Environmental Review
U.S. Department of the Interior

Robert J. Catlin

Division of Environmental Affairs
Atomic Energy Commission

Hang-Sheng Cheng

International Economist
U.S. Department of the Treasury

George Cherry

Deputy Associate Administrator, A.S.T.
NASA

Joseph F. Coates

Program Manager
Exploratory Research and Problem Assessment
National Science Foundation

Vary T. Coates

Research Scientist
Program of Policy Studies, GWU

Harry I. Cohen

Plans Evaluation Division
U.S. Coast Guard
U.S. Department of Transportation

Ernest L. Corley

Program Analysis and Coordination
U.S. Department of Agriculture

Henry Coulter

Geological Survey
U.S. Department of the Interior

Fred Cutler

National Economist
U.S. Department of the Treasury

Beatrice Dane

Consumer Affairs and Public Information
National Highway Traffic Safety Administration

Diane D. Davenny

Science and Technical Adviser
Office of Congressman Brock Adams

Velmar Davis

Assistant to Administrator for Environmental Coordination
Economics Research Service
U.S. Department of Agriculture

Paul Dembling

General Counsel
General Accounting Office

Harold Denton

Assistant to the Director for Site Safety
Atomic Energy Commission

Stanley Dolins

Division of Science Resources Studies
National Science Foundation

Steven Ebbin

Senior Staff Scientist
Program of Policy Studies, GWU

Alfred J. Eggers, Jr.

Assistant Director for Research Applications
National Science Foundation

John Farrell

Office of Environmental Review
U.S. Department of the Interior

John Fedwik

Deputy Director
Office of Planning and Evaluation
U.S. Department of Agriculture

Scott Fleming

Office of Assistant Secretary for Health
U.S. Department of Health, Education, and Welfare

Leroy Furlong

New Energy Technologies
Office of Science Advisor
U.S. Department of the Interior

Kenneth Gayer

Deputy Director
Office of Exploratory Research and Environmental
Assessment
National Science Foundation

David Gendell

Office of Highway Planning
Federal Highway Administration

Jack Goldberg

Associate Administrator for Policy and Programming
U.S. Department of Transportation

William I. Goodman

Director
Urban Transportation Systems
Office of Assistant Secretary for Environment and
Urban Systems
U.S. Department of Transportation

Winifred Griffin

Congressional Research Service
Library of Congress

James Gross

Office of Research and Ship Development
Maritime Administration
U.S. Department of Commerce

Wilford Grover

Water Resources Council

James A. Hagen

Associate Administrator for Policy and Plans
U.S. Department of Transportation

Walter Hahn

Science Policy Division
Congressional Research Service
Library of Congress

Harry H. Hersey

Assistant Program Officer for Research and Development
Federal Highway Administration
U.S. Department of Transportation

Frank Hersman

Office of Intergovernmental Science Utilization
Research Applied to National Needs Program
National Science Foundation

Lloyd O. Herwig

Advanced Technology Applications Division
Research Applications
National Science Foundation

William Iulo

Ford Foundation Energy Policy Project

Roy Jackson

Associate Administrator, A.S.T.
NASA

Paul Jaffe

Office of Safety and Consumer Affairs
U.S. Department of Transportation

James R. Janis

Office of Planning and Evaluation
Environmental Protection Agency

Philip Johnson

Environmental Systems Division
National Science Foundation

Thomas J. Joyce

Bureau of Natural Gas
Federal Power Commission

Raphael Kasper

Research Scientist
Program of Policy Studies, GWU

Jean Knezo

Analyst in Science and Technology
Congressional Research Service
Library of Congress

James H. Krieger

Chemical and Engineering News

Eugene Lehr

Coordination and Research Division
U.S. Department of Transportation

Joseph Leiber
Congressional Research Service
Library of Congress

James D. Leonard
Emergency Planning Office
Federal Highway Administration
U.S. Department of Transportation

Steven Levinson
Assistant Science Advisor
Office of Assistant Secretary for Health
U.S. Department of Health, Education, and Welfare

Al Linhares
Chief
Research and Development Policy and Analysis
Office of Research and Development
U.S. Department of Transportation

Henry Lippick
Senate Commerce Committee

Hugh Loweth
Economics, Science and Technology Division
Office of Management and Budget
Executive Office of the President

Steven Mainom
Office of Technical Planning and Financial Analysis
U.S. Post Office Department

Milton Marney
Senior Research Fellow
Program of Policy Studies, GWU

Roy L. Marx
Research Scientist
Program of Policy Studies, GWU

Louis H. Mayo
Vice President for Policy Studies and Special Projects;
Director
Program of Policy Studies, GWU

Lawson M. McKenzie
Office of University Research
U.S. Department of Transportation

Kenneth McLennan
Deputy Assistant Secretary
U.S. Department of Labor

Pat McWethy
Office of National R&D Assessment
National Science Foundation

T. W. Mermel
Assistant to Commissioner for Scientific Affairs
Bureau of Reclamation
U.S. Department of the Interior

Stanley Miller
American Committee for Flags of Necessity

Ellis Mottur
Science Advisor to Senator Edward M. Kennedy

Sumner Myers
Director of Urban Systems Studies
Institute of Public Administration

Lindsay Norman
New Minerals Technology
Office of the Science Advisor
U.S. Department of the Interior

John K. Parker
Office of Planning and Management
Government of the District of Columbia

T. A. Phillips
Chief
Bureau of Power
Federal Power Commission

Stanley P. E. Price
Director
Systems Analysis and Evaluation Division
U.S. Department of Transportation

Martin Prochnik
Deputy Science Advisor
U.S. Department of the Interior

William Radlinski
Associate Director
Office of Coal Research
U.S. Department of the Interior

Tom Ratchford
House Committee on Science and Astronautics

Howard C. Reese
Program of Policy Studies, GWU

Lawrence C. Regan
Chief
Program Review Division
Office of Policy and Plans
Federal Railroad Administration

Harold H. Reuben
Deputy Director
General Accounting Office

Robert Ritzmann
Special Assistant for Industrial Participation
Atomic Energy Commission

Robert Rollins
Advanced Concepts and Missions, A.S.T.
NASA

Edward Ruddy
Shipbuilders Council of America

A. T. Samuelson
Assistant Comptroller General
General Accounting Office

Maxine Savitz
Division of Advanced Technology Assessment
National Science Foundation

Anton B. Schmalz
Vice President
New World Systems, Inc.

Louis J. Schoen
Office of Research
Environmental Protection Agency

Alan Siegel
Director
Community Environment and Utilities Technology Division
U.S. Department of Housing and Urban Development

Marvin Singer
Council on Environmental Quality

Harry Smith
U.S. Department of State

Joel Snow
Deputy Assistant Director for Research Applications
National Science Foundation

Miller Spangler
Office of Licensing
Atomic Energy Commission

Philip J. Steece
Airports Planning Division
Federal Aviation Administration
U.S. Department of Transportation

S. Scott Sutton
Economics Analysis Division
Federal Aviation Administration
U.S. Department of Transportation

Wesley L. Tennant
Senior Staff Scientist
Program of Policy Studies, GWU

T. S. Trybul
Advanced Material Concepts Agency
U.S. Department of Defense

William Upholt

Senior Science Advisor to Assistant Administrator for
Categorical Programs
Environmental Protection Agency

Jack Vanderryn

Division of Applied Technology
Atomic Energy Commission

William Van Ness

Senate Committee on Insular and Interior Affairs

Edward J. Ward

Office of Research Development and Demonstration
Federal Railroad Administration
U.S. Department of Transportation

Jerry D. Ward

Director
Research and Development Policy
U.S. Department of Transportation

Russell Wayland

Conservation Division
U.S. Geologic Survey
U.S. Department of the Interior

Arden Weiss

National Programs and Assessment Division
Water Resources Council

Ernest Weiss

Formerly Executive Director
National Transportation Safety Board

Merril Whitman

Assistant Director for Program Analysis
Reactor Development and Technology Division
Atomic Energy Commission

Thomas Wilson

International Institute for Environmental Affairs

James R. Wright

Environmental Coordinator
Highway Research Board
National Academy of Sciences

Raymond Wright

American Petroleum Institute

Robert Wolf

Environmental Policy Division
Congressional Research Service
Library of Congress

Dale Zimmerman

Leasing Branch
Bureau of Land Management
U.S. Department of the Interior

Dan Zwick

Office of the Assistant Secretary for Health
U.S. Department of Health, Education, and Welfare

20. Fellowship Program Seminars on
ISSUES AND CONCERNS IN CAREER EDUCATION

Series Coordinator: Ann B. Finkelstein

Papers were presented as follows:

1. Career Education and Minority Groups

- a) February 8, 1973—Rhody McCoy (Speaker)
Director
Center for the Study of Educational Innovations
University of Massachusetts
Rudolph Bryant (Fellow)
Assistant Director
Pratt Institute Center for Community and Environmental Development
- b) March 8, 1973—Rudolph Bryant (Speaker)
Assistant Director
Pratt Institute Center for Community and Environmental Development
Fellow in "Issues and Concerns in Career Education"

2. Career Education and Employers

- a) March 19, 1973—Charles Bowen (Speaker)
Chairman of the National Committee for Support of Public Schools
- b) April 19, 1973—Ron Hicks (Speaker)
Staff Assistant
Urban Affairs Department
Dallas Chamber of Commerce
Fellow in "Issues and Concerns in Career Education"

3. Career Education and Labor Unions

- a) April 30, 1973—Gus Tyler (Speaker)
Assistant President
International Ladies Garment Workers Union
Albert Lorente (Fellow)
United Automobile Workers of America
- b) May 30, 1973—Albert Lorente (Speaker)
Administrative Coordinator of Project Outreach
United Automobile Workers of America
Fellow in "Issues and Concerns in Career Education"

4. Career Education and Higher Education

- June 21, 1973—*Panelists:*
Stephen Bailey
Vice President
American Council on Education
David Bushnell
Human Resources Research Organization
Stephen Plumer
Dean of Developing Programs
Antioch College

Participants:

Sheppie Abramowitz

Director
Washington Office
University of Cincinnati

Delbert Allen

Business Manager
Local 77
International Union of Operating Engineers

George Arnstein
The Brookings Institution

Sherri Arnstein
A. D. Little, Inc.

Helen S. Astin
Director of Research
University Research Corporation

Donald Barnes

Vice President
Institute for Educational Development

Mary Bigley

Federal Relations Desk
American Association of State Colleges and Universities

Alvah Borman

Assistant Dean for Cooperative Education
Northeastern University

Charles Bowen

Chairman
National Committee for Support of the Public Schools

Jacqueline Brophy

Acting Director
Labor Program Service
School of Labor and Industrial Relations
Michigan State University

Jonathan Brown

Institute for Educational Leadership, GWU

Dave Bushnell

Human Resources Research Organization

Dale Bussis

Vice President
Institute for Educational Development

Paul Cawein

Assistant Superintendent
Career Development Programs
District of Columbia

Tory Cawnes

Research Assistant
National Institute of Education

James Cesnik

Editorial Guild Reporter;
Director
American Newspaper Guild

Michael Collins

Director
Dual Enrollment Program
International Union of Operating Engineers

Paul Collins

American Personnel and Guidance Association

Lloyd Cooke

Director
Urban Affairs
Union Carbide Corporation

Martin Cooley

Program Executive for Education
National Association of Manufacturers

Olga Corey

Director
State of Illinois Washington Office

Kathryn Crockett

GWU

Ruth Day

National Office Training Branch
Internal Revenue Service

William Douglas

Director of Education
American Institute for Free Labor Development

John Egermeier

Director
Researcher Training
National Institute of Education

Clinton Fair

AFL-CIO

James Fellows

Director
Professional Services
National Association of Educational Broadcasters

Ann Finkelstein

Assistant Director
Career Education Fellowship Program
Program of Policy Studies, GWU

Patricia Fleming

Legislative Assistant to Congressman Augustus Hawkins

Brady Fletcher

Counselor
Kensington Junior High School

Delyte Frost

Communication Workers of America

Dennis Gallagher

The Manpower Institute

Iris Garfield

Project Manager
National Assessment Project
Office of Education

Ira Gibbons

School of Social Work
Howard University

Carol Gibson

Associate Director
Educational Policy Information Center
National Urban League

Robert Gilkey

Author
formerly Director of Office of Environmental Education
Office of Education
U.S. Department of Health, Education, and Welfare

Larry Givens

Manager
Job Orientation and Training
Chrysler Corporation

Helmut Golatz

Head
Department of Labor Studies
Pennsylvania State University

Thomas Golatz

Social and Rehabilitation Service
U.S. Department of Health, Education, and Welfare

Harold Goldstein

The Manpower Institute

Margaret Gover

Americans for Indian Opportunity, Inc.

Nancy Graham

The National Urban Coalition

Richard A. Graham

Former Director
Education Programs
ACTION

Glendis Hambrick

Chairman
Committee on School and Work
American Federation of Teachers

Martin Hamburger

Dean
New York University

Reese Hammond

Director of Education
International Union of Operating Engineers

David Hampson

Career Education Task Force
National Institute of Education

LaDonna Harris

President
Americans for Indian Opportunity, Inc.

William Harrison

Center for the Study of Social Problems
Battelle Memorial Institute

Lucinda Haynes
Staff Associate
American Assembly of Collegiate Schools of Business

Addison Hobbes
Washington Technical Institute

Owen Hoey
Director
"On the Job" Training Program
International Unions of Electrical, Radio and
Machine Workers

Charles Holt
Senior Research Economist
The Urban Institute

Donald M. Honicky
Supervisor
Educational Relations, AT&T

Kenneth Hoyt
Director of the Speciality Oriented Student Research
Program
University of Maryland

Jack Hruska
Department of Education
University of Massachusetts

Art Humphrey
Career Education Task Force
National Institute of Education

Fred Humphrey
Vice President
Institute of Services to Education

Charles Hurst
President
Malcolm X College

Aian Jackson
Assistant Division Chief Education
Office of Management and Budget

Ronald Johnson
Educational Relations Division, AT&T

Ella M. Johnston
Career Education Task Force
National Institute of Education

Arthur Kane
Labor Studies Center
Federal City College

Raphael Kasper
Assistant Director
Career Education Fellowship Program
Program of Policy Studies, GWU

Clement P. Kerley
Manager
Manpower Planning and Development
Pitney-Bowes

Bruce Kingery
Division of Education
United Auto Workers of America

Kristin Larson
GWU

Sar Levitan
Director
Center for Manpower Studies, GWU

James Lyons
Equal Opportunity Specialist
Office of Program and Policy Review
U.S. Civil Rights Commission

Sam Marks
Humanic Design Corporation

Sidney Marland
Assistant Secretary for Education
U.S. Department of Health, Education, and Welfare

Eugene Martin
National Advisory Council on Vocational Education

Louis Mayo
Vice President for Policy Studies and Special Projects;
Director
Program of Policy Studies in Science and Technology, GWU

Rhody McCoy
Director
Center for the Study of Educational Innovations
University of Massachusetts

Helen McKenzie
League of Women Voters

John R. McKenzie
Director
Labor Studies Center
Federal City College

Louis G. Mendez, Jr.
Federal Coordinator for Industry, Education and Labor
U.S. Office of Education

Constantine Menges
Deputy to the Assistant Secretary for Education
U.S. Department of Health, Education, and Welfare

Frank Mensel
Vice President
Governmental Affairs
American Association of Junior Colleges

Clarence Mondale
Director
Office of Program Development, GWU

Richard C. Mottu
Vice President
Youth Programs
National Alliance of Businessmen

Selma Mushkin
Director
Public Service Laboratories
Georgetown University

Arlene Neal
Human Resources Development Institute

Jettie Newkirk
Director
Urban Careers Education Center

Fern Nicholas
Counsel
Bladensburg High School

Harold Orleans
The Brookings Institution

Barry Passett
Systems for Change, Inc.

Stan Patterson
Community College Education
U.S. Office of Education

Reginald Petty
Director of Research
National Advisory Council on Vocational Education

Steven Plumer
Dean
Antioch College Washington Campus

Roman Pucinski
Former Congressman from Chicago, Ill.

John Quackenbush
Washington Building Trades Council

George Quarles
Director
Career Education Program
New York City

Pat Reilly
Department of Career Education
New York City

Corinne Rieder
Director
Career Education Task Force
National Institute of Education

James L. Roberts
Director
Career Planning and Placement
Morgan State College

Tom Ryan
Appalachian Education Laboratory

Walter Shea
Executive Assistant to the President
International Brotherhood of Teamsters

Diana Sidebotham
New England Coalition

Thomas A. Skrobola
Department Chief
College Relations Staff
Western Electric Company

William Simon
President
Washington Teachers Union

Robert C. Sneider
National Education Association

Ruth Souman
Labor Affairs Department
The National Urban League

Paul Stahl
Human Resources Development Institute
AFL-CIO

William Stevens
Personnel Director
Hechinger and Company

Bill Stoval
Assistant Director
Career Services, GWU

Al Thomas
Research Analyst
Project BUILD

Ron Tipton
GWU

Fred Valentine
George Hyman Construction Company

Lester Velie
Editor
"Reader's Digest"

Margo von Kaenel
GWU

Thomas Walsh
Executive
Educational and Manpower Development Committee
U.S. Chamber of Commerce

Rita Wasmuth
American Association of State Colleges and Universities

Harry Wellbank
Head of National Training Programs
Sears-Roebuck

Mary Wine
Executive Associate
Association of Independent Colleges and Schools

Joe Woodrick
Director
College/Industrial Relations
National Alliance of Businessmen

Bernie Yabroff
Career Education Task Force
National Institute of Education

Alfred Yates
Applicant and Training Representative
The D.C. Apprenticeship Council

Publications, Reports, Books

Program Publications

The publications listed herein have grown out of the Program's research from the Fall of 1966 through October 1973. The Program publishes four *groups* of documents: Monographs (Mon), Occasional Papers (OP), Reprints (R), and Staff Discussion Papers (SDP). Staff Discussion Papers fall in four *series*:

- 100 series—Urban
- 200 series—Technology Assessment
- 300 series—Economic Aspects of R&D
- 400 series—Institutional Responses to
Advancing Technology

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Program Series papers (except Reprints which may only be ordered from Mrs. Steiner) may be ordered from the *National Technical Information Service*, 5285 Port Royal Road, Springfield, Va. 22151 (microfiche—\$1.45, paper copies—\$3.00 or as listed) stating title, author and PB or N number of the document requested. All orders should be sent to *NTIS* accompanied by payment in the form of a check, money order or *NTIS* coupon.

Advocacy in Technology Assessment.

Ernest M. Jones. (Nov. 70) GWPS-SDP 209;
80 pp. PB 196-635.

Apollo Decision and Its Lessons for Policy Makers.

John M. LOGSDON. (Jan. 70) GWPS-OP 7;
38 pp. N70-23324.

Broadcast Satellites: Their Potential Use for Educational Purposes, and their Relationship to International Understanding and Cooperation.

John HANESSIAN, Jr. and Joseph B. MARGOLIN
(July 69) 21 pp. GWPS-OP 3;
PB 192-549.

"Business Gigantism and 'Technological Imperatives'."

Arthur S. MILLER. From the *Journal of Public Law*,
Vol. 18, #3, Fall 1969. Reprint #6
(Fall 69) 55 pp.

Congressional Debate on the Social Sciences.

Dennis W. BREZINA. (Dec. 68) GWPS-SDP 400;
22 pp. PB 192-556.

***Consideration of Environmental Noise Effects in Transportation Planning by Governmental Entities.**

Louis H. MAYO. (Dec. 72) GWPS-OP 15;
58 pp. N73-72515.
(Revision of remarks prepared for TRANSP0 '72
International Conference on Transportation and the Environment, Session #7 on "Noise as a
National Problem" held 5/31/72, Wash. D. C.)

Contextual Approach to Technology Assessment: Implications for "One Factor Fix" Solutions to Complex Social Problems.

Louis H. MAYO. (April 71) GWPS-MON 9; 92 pp. PB 199-162.

Control of Incinerator-Caused Air Pollution in New York City: 1946-1965.

Richard MYRICK and Barbara S. MARX. (March 68) 65 pp. \$6.00 GWPS-SDP 202; PB 182-874.

"Controlling the Potential Hazards of Government-Sponsored Technology."

Michael J. WOLLAN. From *The George Washington University Law Review*, Vol. 36, #6, July 1968. Reprint #2 (Nov. 68) 36 pp.

Conversion of Scientific and Technical Resources: Economic Challenge—Social Opportunity.

Ellis R. MOTTUR. (March 71) GWPS-MON 8; 209 pp. COM 71-00605.

Decentralization of Urban Government: A Systems Approach.

Guy BLACK. (Aug. 68) 32 pp. GWPS-SDP 102; \$6.00 PB 182-870.

***Design Evaluation in Technology Assessment.**

John F. HALLDANE. (May 72) GWPS-MON 12; 50 pp. \$4.75 N72-28970.

Early Experiences with the Hazards of Medical Use of X-Rays: 1896-1906—A Technology Assessment Case Study.

Barbara S. MARX. (Fall 68) GWPS-SDP 205; 75 pp. \$6.00 PB 182-877.

***"Earth Resource Surveys: An International Framework Begins to Develop."**

John M. LOGSDON and John HANESSIAN, Jr. From *Astronautics and Aeronautics*, September 1971. Reprint #14 (Oct. 71) 6 pp.

***"Earth Resources Technology Satellite: Securing International Participation."**

John HANESSIAN, Jr. and John M. LOGSDON. From *Astronautics and Aeronautics*, August 1970. Reprint #10 (Sept. 70) 8 pp.

"Effect of Government Funding on Commercial R & D."

Guy BLACK. From *Factors in the Transfer of Technology*, Gruber & Marquis (ed.), M.I.T. Press, 1969. Reprint #9 (July 70) 16 pp.

Energy, Air Quality and the Systems Approach.

Guy BLACK. (July 70) 93 pp. GWPS-SDP 104; PB 195-797.

***Evaluation of Social Justice Outcomes of Anticipatory Project Assessments: A Succession of "Hypothetical Judgments."**

Louis H. MAYO. (Oct. 73) GWPS-MON 16; 30 pp. N74-_____
(Prepared for presentation at the Second International Conference on Unity of the Sciences, Tokyo, Japan, Nov. 18-21, 1973 under sponsorship of the International Cultural Foundation.)

Examples of Technology Assessments for the Federal Government.

Vary T. COATES. (Jan. 70) GWPS-SDP 208; 48 pp. PB 192-555.

Expanding Roles of Non-Profit Organizations as Contractors with Government: Some Research Needs.

Clarence H. DANHOF. (Mar. 68) GWPS-SDP 301; 19 pp. PB 182-879.

Federal Government and the Current Development of Technology Assessment.

Vary T. COATES. (June 71) GWPS-OP 11; 12 pp. PB 201-470.

***Federal Support of Civilian Technology: Theory versus Practice.**

George EADS. (March 73) GWPS-OP 16; 24 pp. N73-72514.

Financial Variables Associated with R & D Expenditures by Industry.

Guy BLACK. (Jan. 68) 12 pp. GWPS-SDP 300; PB 182-878.

Forecasting in International Relations.

Stuart GREENBERG. (June 70) GWPS-SDP 407; 29 pp. PB 192-563.

***Generating Social Impact Scenarios: A Key Step in Making Technology Assessment Studies.**

Martin V. JONES. (April 72) GWPS-MON 11; 20 pp. \$3.25 N72-24978.

***Genetic Engineering.**

Dan S. MURRELL. (61 pp.) and

***Cyclamates.**

Robert B. STENSTROM. (87 pp.) April 71. Two selected student papers from a course, "Science and the Legal Process" at the National Law Center of The George Washington University, Spring term 1970. Available only from the Program of Policy Studies.

***Genetic Technology: Promises and Problems.**

Mark S. FRANKEL. (March 73) GWPS-MON 15; 104 pp. N73-72427.

Highlights from the Literature on Organization for Federal Programs in Science and Technology.

Fred R. BROWN and Stephen R. CHITWOOD. (July 68) 140 pp. \$6.00 GWPS-MON 2; PB 182-603.

Historical Aspects of Technology Assessment.

Melvin KRANZBERG. (Aug. 69) GWPS-OP 4; 23 pp. PB 192-550.

"Impact of Cybernetic Information Technology on Management Value Systems."

Richard F. ERICSON. From *Management Science*, Vol. 16, #2, October 1969. Reprint #5 (Oct. 69) 24 pp.

Influence of Insurance on Technological Development.

Gordon B. FIELDS (Nov. 69) GWPS-SDP 405; 38 pp. PB 192-561.

"International Aspects of Earth Resources Survey Satellite Programs."

John HANESSIAN, Jr. From *The Journal of the British Interplanetary Society*, Vol. 23, Spring 1970. Reprint #8 (June 70) 22 pp.

***Law's Interface with Expanding Technology.**

Harold P. GREEN. (Aug. 72) GWPS-OP 13;
12 pp. (CR-129270);
N73-12987.

"National Economic Conversion: Congressional Proposals and Prospective Action."

Ellis R. MOTTUR. From *Proceedings of the Midwest Regional Conference on Science, Technology, and State Governments: Achieving Environmental Quality in a Developing Economy*, held 17-19 November, 1970, Chicago, Illinois. Reprint #12 (Jan. 71) 13 pp.

New Technological Era: A View from the Law.

Harold P. GREEN. (Jan. 68) GWPS-MON 1;
9 pp. PB 182-868.

***On the Cost of Engineering Education.**

Guy BLACK. (Nov. 70) 174 pp. GWPS-MON 7;
PB 196-639.

Organizational Cybernetics and Human Values.

Richard F. ERICSON. (Sept. 69) GWPS-MON 4;
31 pp. PB 192-545.

***Planning and Programming in the Soil Conservation Service.**

Roy M. GRAY. (June 72) GWPS-MON 13;
27 pp. \$3.50 N72-28347.

"Policy Analysis Role of the Contemporary University."

Richard F. ERICSON. From *Policy Sciences*, December 1970. Reprint #11 (Jan. 71) 15 pp.

Probing the Law and Beyond: A Quest for Public Protection from Hazardous Product Catastrophes.

James M. BROWN. (July 69) GWPS-SDP 402;
64 pp. PB 192-558
[Became Reprint #7]

"Probing the Law and Beyond: A Quest for Public Protection from Hazardous Product Catastrophes."

James M. BROWN. From *The George Washington University Law Review*, Vol. 38, #3, March 1970. Reprint #7 (April 70) 36 pp.

Process of Setting Safety Standards in the Courts, Congress and Administrative Agencies.

Michael J. WOLLAN. (Feb. 68) GWPS-SDP 204;
126 pp. \$6.00 PB 182-876.

Promising Approaches Toward Understanding Technology Transfer.

James E. MAHONEY. (Dec. 67) GWPS-SDP 201;
10 pp. PB 182-873.

Public Health Service Guidelines Governing Research Involving Human Subjects: An Analysis of the Policy-Making Process.

Mark S. FRANKEL. (Feb. 72) GWPS-MON 10;
65 pp. \$5.50 N72-24093.

Public Policy for Genetic Manipulation: A View from the Law.

Harold P. GREEN. (March 69) GWPS-OP 1;
16 pp. PB 192-547.

"Relationship of Technology Assessment to 'Balanced Social Growth'."

Louis H. MAYO. From *Harmonizing Technological Developments and Social Policy in America*, Monograph No. 11 of the American Academy of Political and Social Science, and delivered at their meeting in December 1970, Philadelphia, Pa. Reprint #13 (May 71) 20 pp.

Relationship of Technology Assessment to Environmental Management.

Louis H. MAYO. (Oct. 69) GWPS-SDP 206;
30 pp. PB 192-554.

Rise and Demise of the Senate Subcommittee on Government Research.

Dennis W. BREZINA. (Nov. 69) GWPS-SDP 406;
31 pp. PB 192-562.

Role of Crusader-Triggered Controversy in Technology Assessment: An Analysis of the Mass Media Response to "Silent Spring" and "Unsafe at Any Speed."

Dennis W. BREZINA. (April 68) GWPS-SDP 203;
42 pp. \$6.00 PB 182-875.

"Safely Determinations in Nuclear Power Licensing: A Critical View."

Harold P. GREEN. From the *Notre Dame Lawyer*, Vol. 43, #5, June 1968. Reprint #1 (Aug. 68) 24 pp.

Science & Technology in the Theories of Social and Political Alienation.

Edward CHASZAR. (June 69) GWPS-SDP 401;
72 pp. PB 192-557.

Science Policy and Public Affairs in Europe.

Jean-Jacques SALOMON. GWPS-OP 2;
(Dec. 68) 28 pp. PB 192-548.

Scientific Method, Adversarial System, and Technology Assessment.

Louis H. MAYO. (Nov. 70) GWPS-MON 5;
114 pp. PB 196-638.

Social Change in the American Value System.

Seymour M. LIPSET. [Proceedings of a Seminar] John P. ROCHE, critique; Clarence C. MONDALE, Moderator and Editor. GWPS-MON 3.
(Nov. 67) 76 pp.

Social Impact Analysis: 1970.

Louis H. MAYO. (March 71) GWPS-SDP 210;
49 pp. PB 199-163.

Social Impact Evaluation: Some Implications of the Specific Decisional Context Approach for Anticipatory Project Assessment with Special Reference to Available Alternatives and to Techniques of Evaluating the Social Impacts of the Anticipated Effects of Such Alternatives.

Louis H. MAYO. (Nov. 72) GWPS-OP 14;
56 pp. \$4.75 N73-14968.

Some Comments on Technology Assessment and the Environment.

Raphael G. KASPER. (Nov. 70) GWPS-OP 8;
13 pp. PB 196-640.

Some Effects of Federal Procurement of Research and Development on Industry.

Guy BLACK. (July 68) GWPS-SDP 302;
70 pp. \$6.00 PB 182-880.

Some Implications of the Technology Assessment Function for the Effective Public Decision-Making Process.

Louis H. MAYO. (May 71) GWPS-OP 12;
30 pp. PB 201-049.

Some Issues in Preparing Science Administration Leadership for Tomorrow.

Dwight WALDO. (Dec. 69) GWPS-OP 6;
23 pp. PB 192-551.

Some Legal, Jurisdictional, and Operational Implications of a Congressional Technology Assessment Component.

Louis H. MAYO. (Dec. 69) GWPS-SDP 207;
59 pp. N70-26454.

Some Research Approaches to Studying the Development and Functioning of Technology Assessment-Control Processes.

Richard MYRICK and Barbara S. MARX. (Fall 67)
30 pp. \$6.00 GWPS-SDP 200;
PB 182-872.

Space Program and the Urban Problem: Case Studies of the Components of National Consensus.

John V. MOESER. (Spring 69) GWPS-SDP 404;
48 pp. PB 192-560.

Systems Approach and the Urban Dilemma.

Robert G. SMITH. (July 68) GWPS-SDP 101;
49 pp. \$6.00 PB 182-869.

Systems Approaches to Multi-Variable Socio-Economic Problems: An Appraisal.

Ernest M. JONES. (Aug. 68) GWPS-SDP 103;
70 pp. PB 182-871.

[Became Reprint #4] \$6.00

"Systems Approaches to Socio-Economic Problems Confronting Governments: An Appraisal."

Ernest M. JONES. From the *Journal of Public Law*,
Vol. 18, #1, June 1969. Reprint #4
(June 69) 60 pp.

Technology Assessment and Citizen Action.

Ellis R. MOTTUR. (March 71) GWPS-OP 10;
26 pp. PB 199-161.

Technology Assessment and Environmental Engineering.

Ellis R. MOTTUR. (Jan. 71) GWPS-OP 9;
19 pp. PB 197-687.

Technology Assessment of Space Stations.

Vary T. COATES. (May 71) GWPS-SDP 212;
65 pp. PB 201-073.

Technology Assessment: What Should It Be?

Guy BLACK. (June 71) 54 pp. GWPS-SDP 211;
PB 201-471.

***Technology, the Evolution of the Transnational Corporation, and the Nation-State: A Speculative Essay.**

Arthur S. MILLER. (Oct. 72) GWPS-MON 14;
72 pp. \$6.00 N73-12988.

Technology Transfer by People Transfer.

Clarence H. DANHOF. (Aug. 69) GWPS-SDP 403;
20 pp. PB 192-559.

"Toward the 'Techno-Corporate' State: An Essay in American Constitutionalism."

Arthur S. MILLER. From the *Villanova Law Review*,
Vol. 14, #1, Fall 1968. Reprint #3
(Dec. 68) 73 pp.

***Toward a New Federal Policy for Technology: The Outline Emerges.**

John M. LOGSDON. (Aug. 72) GWPS-SDP 408;
30 pp. \$3.75 N73-13987.

***U.S. Technology: Trends and Policy Issues.**

Michael BORETSKY. (Oct. 73) GWPS-MON 17;
175 pp. N73-_____

Urban Development Modeling.

George C. HEMMENS. GWPS-MON 6;
(April 70) 38 pp. PB 192-546.

What's Happening to Small Business Research and Development?

Guy BLACK. (May 71) 17 pp. GWPS-SDP 303;
PB 201-074.

PUBLICATIONS OF
THE NATIONAL ADVISORY COUNCIL ON
SUPPLEMENTARY CENTERS AND SERVICES

Since 1972 the Council has prepared and published a *Quarterly* in magazine format. While still available, a complimentary copy of these publications, listed below, may be requested from the National Advisory Council on Supplementary Centers and Services, 425 Thirteenth St. N.W., Suite 529, Washington, D. C. 20004. Copies are accessible for reading or for ordering xerox copies (10¢/page + 50¢ postage and handling) at the Special Collections Section, George Washington University Library, Washington, D. C. 20006. Such requests must be accompanied by your check in the required amount payable to The George Washington University.

1972 January **Title III in Special Education**
tells the story of Title III's contribution to special education and includes a listing of Title III special education projects. (35 pp.)

April **"Title III in Environmental Education"**
This publication reviewed a number of Title III projects in this curriculum area and listed all projects operating throughout the country. In this new curriculum field, the publication is one of the first to describe how environmental education may actually be implemented at the elementary and secondary levels, and it has had wide circulation among educators and environmentalists. (34 pp.)

July **"Title III in Preschool Education"**
This issue of the *Quarterly* described in detail and in summary a number of projects in this field and listed all programs currently in existence under Title III. (34 pp.)

October **"Title III and the World of Work"**
This *Quarterly* reviewed and listed Title III projects in vocational and career education. (34 pp.)

1973 January **"Title III in Guidance and Counseling"**
This publication brought together information about Title III guidance projects. It also represents one of the first efforts in the field to describe the operation of guidance and counseling programs actually operating in schools. (44 pp.)

April **"Title III and Changing Educational Designs"**
This issue of the *Quarterly* describes Title III projects which have implications for long-term and comprehensive changes in educational practices. (51 pp.)

July **Title III and Cultural Diversity**
deals with projects in bilingual education, cultural awareness, and ethnic studies. (36 pp.)

The Fall, 1973 issue reviews Title III projects in educational administration and management. The Winter, 1973 issue reviews Title III in the Arts.

Also distributed by the Council is a monthly newsletter designed to inform the Title III community of national developments affecting education and of the activities of Title III projects and state administrators.

Books and Project Reports

Listed here are Books written by staff members and published, and Project Reports (published and unpublished). At least one copy of the Final Report of each project is accessible for reading in the library of the Program, as well as in the Special Collections Section of the main University library. However, no copies are available for distribution. Sometimes copies of these reports are available from the sponsoring agency, and when possible, reference numbers for them are cited.

A Critical Review of the Marine Science Commission Report, 1969.

Thomas CLINGAN (ed.). A report. 144 pages. Available from Marine Technology Law Society, 1730 M St., N.W., Washington, D. C.

A National Criminal Justice Reference Service.

James E. MAHONEY and David WEEKS. A report. January 1971, 36 pages. Prepared for the Law Enforcement Assistance Administration, Department of Justice, Washington, D. C. The model for an information reference system recommended in this report was the basis for a system which is now national in scope and which is broadening into international application.

A Workbook on Alternative Future Life Styles Related to Energy Demand.

Vary T. COATES. A report. August 1973, 192 pages. Prepared for the Ford Foundation Energy Policy Project.

An Integrated Strategy for Aircraft/Airport Noise Abatement.

Louis H. MAYO. A report. September 1973, 264 pages. A Legal/Institutional Analysis of Section 7 of the Noise Control Act of 1972 and proposals based thereon. Prepared for the Environmental Protection Agency, Office of Noise Control Programs.

Analysis of the Need For and Feasibility of More Effective Distribution of Government-Supported Non-Written Material.

Joseph B. MARGOLIN and Educational Policy Group. A report. April 1970. Prepared for the U.S. Office of Education, this report was used as a basis for a book entitled "The Dissemination of Audio-Visual Materials: A Study of the Systems that Supply our Schools." The writing of the book is supported by a grant from the Ford Foundation. Publication is expected in 1974.

Application of Systems Analysis to Government Operations.

Guy BLACK. New York: Frederick A. Praeger, 1968, 186 pages (\$15). Library of Congress No. 68-18914. A book clarifying in a very short space a large number of difficult concepts and ideas surrounding the application of systems analysis.

Candidates and Priorities for Technology Assessments: A Survey of Federal Executive Agency Professionals.

Howard C. REESE with Peter R. Bankson, George E. HUMPHRIES, and Ben F. Sands, Jr. A report. July 1973, 119 pages. A survey by questionnaires

and interviews of middle-to-upper-level Federal officials to determine technological developments in need of technology assessment. Data from both modes resulted in 457 nominees and 367 candidates for technology assessment. Prepared for the National Science Foundation (RANN/ERPA).

Citizen Group Uses of Scientific and Technological Information in Nuclear Power Cases.

Steven EBBIN and Raphael KASPER. A report. August 1973, 2 volumes, 343 pages. Prepared for the National Science Foundation. This report was used as a basis for a book, "Citizen Groups and the Nuclear Power Controversy: Uses of Scientific and Technological Information" being published by MIT Press in January 1974.

Computers in the Classroom: An Interdisciplinary View of Trends and Alternatives.

Joseph B. MARGOLIN and Marion R. MISCH (editors). New York: Spartan Books, 1970. (\$14). A book concerning future computer uses in elementary and secondary education, this book is based on a report prepared for the U.S. Office of Education in the Autumn of 1967 entitled "Education in the 70's" (see below).

Decision to Go to the Moon: Project APOLLO and the National Interest.

John M. LOGSDON. Cambridge, Mass.: M.I.T. Press, 1970. LC 73-110230. A political scientist examines the influence of men and events on the decision-making process. A thorough historical record of this event.

Dissemination of Audio-Visual Materials: A Study of the Systems that Supply our Schools.

Joseph B. MARGOLIN and the Educational Policy Group. A book to be published in 1974, the writing of which is supported by a grant from the Ford Foundation. It is based on a report prepared for the U.S. Office of Education in April 1970 entitled "Analysis of the Need For and Feasibility of More Effective Distribution of Government-Supported Non-Written Material."

Education in the 70's.

Joseph B. MARGOLIN and Marion R. MISCH. A report. Autumn 1967. Prepared for the U.S. Office of Education, this report was used as a basis for a book published by Spartan Books, New York in 1970 entitled "Computers in the Classroom: An Interdisciplinary View of Trends and Alternatives."

Effect of Changing Patterns and Levels of Federal Research and Development Funding on Industry.

Guy BLACK. A report. July 1973, 448 pages.

Prepared for the National Science Foundation, Industry Studies Group.

Effects of Limited-Access Highways on Nearby Churches.

Joel GARNER with Joseph L. TROPEA. A report. October 1971, 25 pages. Prepared for the Federal Highway Administration.

Evaluative Jurisprudence: The Role of Legal System in the Maintenance of Control over the Direction and Rate of Value-Institutional Change in Modern Technological Society.

Louis H. MAYO. September 1972, 400 pages. Experimental Class Materials for use in the GWU National Law Center Course on Jurisprudence. Revised September 1973, 300 pages.

Evaluative Mechanisms for the Public Experimental Program of the National Endowment for the Humanities.

Guy BLACK and James E. MAHONEY. A report. September 1969, 3 large volumes. Prepared for the National Endowment for the Humanities, Washington, D. C.

Federal Contributions to Management: Effects on the Public and Private Sectors.

David S. BROWN (editor). New York: Praeger Publishers, 1971, 405 pages. This book was based on papers presented before a series of seminars on "Federal Contributions to Management" sponsored by the Program of Policy Studies in Science & Technology during the Spring and Fall of 1968.

Homeowner's Title Registration Corporation: A Program to Reduce the Land-Related Costs of Housing.

James M. BROWN. A report. February 1972, 4 volumes, 900 pages. Prepared for the Office of Economic and Market Analysis, Department of Housing and Urban Development, Washington, D. C.

Innovation Information and Analysis Project.

Wesley L. TENNANT. First Quarterly Report. July 1973. Prepared for the National Science Foundation, National Research and Development Assessment Program (RDA).

International Participation in an Experimental Earth Resources Survey Satellite Program.

John HANESSIAN, Jr. and John M. LOGSDON. A report. April 1970, 114 pages. Prepared for the Office of International Affairs, NASA.

Inventory and Appraisal of George Washington University Activities in Urban Social/Minority Group Problem Areas.

Program of Policy Studies in Science & Technology. A report. May 1968, 70 pages. Prepared for the President of The George Washington University.

Laws and Regulatory Schemes for Noise Abatement.

Louis H. MAYO. A report. December 1971, 638 pages. (\$9). Prepared for the Office of Noise Abatement and Control, Environmental Protection Agency, Washington, D. C. EPA Report #NTID 300.4; available from NTIS as PB 206-719.

Legal, Economic, and Technical Aspects of Liability and Financial Responsibility as Related to Oil Pollution, Volume II: Study.

Erling ROSHOLDT. A report. December 1970, 347 pages. Prepared for the U.S. Coast Guard, Washington, D. C. Available from NTIS as PB 198-176. [Vol. I, "Oil Pollution Liability and Financial Responsibility: Report." December, 1970, was prepared by the U.S. Coast Guard. 25 pages.]

Political Economy of the Space Program.

Mary A. HOLMAN. Palo Alto, California: Pacific Books, 1973 (still in press).

Processes of Technological Innovation: A Conceptual Systems Model.

Ellis R. MOTTUR. A report. January 1968, 297 pages. Prepared for the National Bureau of Standards Office of Invention & Innovation and the Arms Control & Disarmament Agency, this report covers the first phase of the Technological Innovation Policy Project. Internal Reference No. NBS 9689. [The final report, "Technological Innovation for Civilian, Social purposes," was submitted in July 1971. (553 pages)].

Revitalization of Small Communities: Transportation Options.

Vary T. COATES. First Phase Report. July 1973, 2 volumes, 240 pages. Volume 2 is a Bibliographic review of literature in this area. Prepared for Department of Transportation, Office of Urban Transportation Systems.

Social Impacts of Civil Aviation and Implications for R&D Policy.

Louis H. MAYO and Civil Aviation Study Group. A report. April 1971, 220 pages. Prepared for the Joint DOT/NASA Civil Aviation R&D Policy Study (TST-30), Washington, D. C. Published by NASA in September 1971 as NASA CR-1988.

Strategies for the Use of Mass Communications Media in the Technologically Developing Nations.

Joseph B. MARGOLIN and Educational Policy Group. A report. November 1971, 574 pages in five volumes. Prepared for the U.S. AID/AED, Washington, D. C.

Technology and Public Policy: The Process of Technology Assessment in the Federal Government.

Vary T. COATES. A report. July 1972, 650 pages. Available from NTIS as follows:

Summary Report (50 pp.) PB-211455 \$3.75

Vol. 1, Final Report (350 pp.) PB-211453 \$9.00

Vol. 2, Appendices (250 pp.) PB-211454 \$6.75

Prepared and supported in part by the National Science Foundation's program of Research Applied to National Needs (RANN).

Technology Assessment Applied to Urban Solid Waste Management.

Henry BRADY and Betsy AMIN-ARSALA. A report. December 1971, 190 pages. Prepared for the National Science Foundation in cooperation with EcoSystems, Inc.

Technology Assessment Implementation Project.

Raphael KASPER and Ellis MOTTUR. A report. June 1973, 2 volumes, 522 pages. Prepared for

the National Science Foundation (RANN/ERPA) to develop detailed plans for further, in-depth, interdisciplinary research projects on Society's Acceptance and Implementation of Technology Assessments.

Technology Assessment: The Proceedings of a Seminar Series.

Raphael G. KASPAR (editor). A report. July 1969, 164 pages. Available from NTIS under no. N69-40307. [A book based thereon was published by Praeger Publishers, New York in 1971 under Library of Congress—#LC 71-161909. (See below)].

Technology Assessment: Understanding the Social Consequences of Technological Applications.

Raphael G. KASPER (editor). New York: Praeger Publishers, 1971. (\$15). Library of Congress 71-161909. A book based on the July 1969 report of the discussions and proceedings of a seminar series on Technology Assessment.

Technological Innovation for Civilian, Social Purposes.

Ellis R. MOTTUR. Final report of a two-phase study. July 1971, 553 pages. Prepared for the Office of Invention and Innovation, National Bureau of Standards, and for the U.S. Arms Control and Disarmament Agency. [The first phase report, "The Processes of Technological Innovation: A Conceptual Systems Model" was submitted in January 1968 (297 pages)]. A separate volume of 47 pages is entitled "A Bibliography on Technological Innovation" which may be of benefit to other researchers in this area.

Toward Increasing the Social Relevance of the Contemporary University.

Richard F. ERICSON. August 1969, 36 pages. A summary statement of the history and then current status of the Interdisciplinary Systems and Cybernetics Project.

Trends in Western European Political and Economic Policies, 1969-1985.

John HANESSIAN, Jr. and International Studies Group. A report. September 1970, 5 volumes, 516 pages. Prepared for Battelle Memorial Institute as part of a contract for the Office of Scientific Research, U.S.A.F.

Program Staff

Staff listing includes those who have contributed all or a substantial part of their effort to Program activities during the period September 1970 through December 1973. Former members of the Staff are listed with Projects commenced prior to January 1971.

Louis H. Mayo

*Director; Vice President for
Policy Studies and Special Projects;
Professor of Law*

Vary T. Coates

*Associate Director; Senior Staff
Scientist, and Head of
Technology Assessment Group
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Guy Black

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Dennis W. Brezina

Senior Staff Scientist (Political Science)

James M. Brown

*Senior Staff Scientist;
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Steven Ebbin

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Director, Graduate Program in
Science, Technology and Public Policy;
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Joseph B. Margolin
Senior Staff Scientist;
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Milton C. Marney
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Arthur S. Miller
Professor of Law

Marion R. Misch
Research Scientist;
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Henry R. Nau
Deputy Director, Graduate Program in
Science, Technology and Public Policy;
Assistant Professor of Political Science
and Public Affairs

Charlton R. Price
Senior Staff Scientist

Howard C. Reese
Senior Staff Scientist

Nozer D. Singpurwalla
Associate Professor of Operations
Research

Charles T. Stewart, Jr.
Professor of Economics

Theodore Suranyi-Unger
Senior Staff Scientist;
Research Professor of Economics

Wesley L. Tennant
Senior Staff Scientist
(R&D Innovation Information)

Ernest Weiss
Senior Staff Scientist
(Transportation Programs Specialist)

Betsy Amin-Arsala

Research Associate (Community Development)

Thomas Carter

Research Assistant (Biomedical Ethics)

Mark S. Frankel

Assistant to the Director, Graduate Program in Science, Technology and Public Policy; Instructor of Political Science

Rodney Frame

Research Associate (Economics)

Daniel J. Guttman

Research Associate (Law)

Charles E. Hansen

Research Associate (R&D Innovation Information)

Audrey D. Hassanein

Research Information Specialist

Charles Lamb

Research Associate, NASA ERTS—Land Use Project (Political Science)

Judith Naiman

Research Assistant (International Relations/Economics)

Richard Rice

Research Associate (Law)

Virginia Robinson

Research Assistant (Education)

Judith Russell

Chief Information Specialist, NSF R&D Innovation Information Center

Edward D. Studholme

Research Associate (Urban and Regional Planning)

S. Ann Vlachos

Senior Document Research Assistant, Innovation Information Center

Margaret Ware

Senior Document Research Assistant, Innovation Information Center

Robert Ware

Research Associate (Environmental Law)

Frederick B. Wood

Research Associate; Assistant Professorial Lecturer of Management Science

John J. Zimmerman

Research Associate (Environmental Law)

Susanne Bachtel
Assistant to the Director

Gertrude Delman
Secretary for Noise Studies

Dorothy Dier
Secretary to Associate Director

P. Gail Gross
Secretary to National Advisory Council
on Supplementary Centers & Services

Claudia Howard
Secretary to Mr. Tennant

Bebita D. Reasoner
Coordinator for Program Publications
and Administration

Michele Sendow
Executive Assistant to
R&D Innovation Information Project

Margo von Kaenel
Executive Assistant to Dr. Ebbin

Linda Yelton
Secretary to Graduate Program in
Science, Technology and Public Policy

Ian Bowen (Undergraduate)
Periodicals Scanner

Pamela Brown (Undergraduate)
Technical Information Assistant

M. Elizabeth Burns (Undergraduate)
Library Aide

Robert Curley (Undergraduate)
Periodicals Scanner

Debra Dretar
Periodicals Scanner

Terome Frazier
Technical Support Staff
(Duplication Center)

Jesse Gibbs
Technical Support Staff
(Duplication Center)