

II. The Nature of Federal Support for Social Science

TABLE IV: Areas of Concentration of Federal Funds for Social Science

FIELD OF INVESTIGATION	Approx. Percentage of Total Administrative Units Considered as Having Work in the Field (n = 252)
<i>Economics (Total)</i>	43%
Labor Studies	9
Production and Development Studies	8
Foreign Studies	8
Agricultural Studies	6
Economic Indicators	1
Other Economics	13
<i>Statistical Studies (Total)</i>	36
<i>Psychological, Education, and Sociological Studies (Total)</i>	28
Education, Pedagogical, and Training Studies	12
Psychology of Individuals and Mental Health	10
Sociological and Social Psychological	8
Human Factors Research and Human Engineering	6
Testing and Scaling	3
Other	2
<i>Demographic and Manpower Studies</i>	21
<i>Administration and Management Studies</i>	20
<i>History, Trend Analysis, and Projection</i>	13
<i>Information Storage/Retrieval and Computers</i>	8
<i>Natural Resources and Geography</i>	8
<i>Transportation and Logistics</i>	8
<i>Area Studies and Other Foreign Studies</i>	6
<i>Technological Change and Expansion</i>	5
<i>Communications and Propaganda Research</i>	4
<i>Legal Research</i>	1
<i>Other and Field Unknown (Total)</i>	11

Source: Original data (see Inventory).

Gross Characteristics

The *total amounts* of federal funds and in-house federal manpower for social science research are perhaps larger than usually imagined. Total expenditures are probably in excess of \$210 million annually, and the number of social science personnel employed by the federal government exceeds 8,000. (See Tables II and III.) These figures, however, are conservative. For example, classified projects of one sort or another might increase them by one-half. Further, some agencies have included salaries of their employees in their estimates of the amounts they spend for social science research, while others have not. Finally, if work done for members of Congress and for Congressional committees could be measured accurately, it could also augment the totals.

Approximately two-thirds of the \$210 million is devoted to in-house social science research. The remaining one-third is used to support extramural projects. A rough measure of the areas of concentration of these resources has been taken, based on the data gathered, and the results are presented in Tables IV and V, pp. 7 and 8. These tables indicate the proportions of the federal organizational units listed in the Inventory working in various substantive fields, and using particular methodologies.

Subjects of Research

The *subject-matter emphases* of federal social science research were found to be in the areas of economics, statistics, sociological and psychological studies, demographic and manpower studies, and administrative studies. (See Table IV.)

Economics, a subject of federally-supported inquiry almost from the founding of the republic, receives wide attention today in the national government. Many agencies have limited economic research programs in connection with their operational or regulatory functions in national commerce, for example the Tennessee Valley Authority and the Federal Power Commission. Other agencies, such as the Agency for International Development and the Central Intelligence Agency, which are heavily involved in foreign affairs, have programs of research on foreign economic problems.*

Most programs of economic research are small, but there are several large operations which provide the basic economic data of the nation. The Department of Labor's Bureau of Labor Statistics is perhaps senior member of this fraternity. It publishes a steady stream of material on current developments in the economy. The Department of

Commerce's Office of Business Economics provides official figures on the various national accounts, including the national income, gross national product, and balance of international payments. Finally, the Federal Reserve System, though not a federal bureau, publishes statistics and analyses of current developments in the American economy with special emphasis on the world of banking and finance. There are many other national agencies which publish more specialized data on the economy. For example, the Securities and Exchange Commission produces detailed statistics in its area of operations while the Department of Agriculture's extensive Economic Research Service sponsors an impressive list of inquiries into the state of the agricultural sector of the American economy.*

Furthermore, there are agencies which have allocated funds to the investigation of such once-uncommon subjects as economic survival after nuclear attack and the economic effects of automation and other technological innovations—in the Office of Emergency Planning and the National Aeronautics and Space Administration, respectively.* (See Table XVIII.)

TABLE V: Methodological Concentration of Federal Social Science^a

METHODOLOGY	Approximate Percentage of Total Administrative Units Considered to Use Methodology (n = 252)
Statistical Analysis	39%
Sampling, Censuses	16
Questionnaires	16
Interviews	15
Analysis of Temporal Sequences	13
Information Storage and Retrieval	8
Graphics and Audio-Visual Techniques	7
Observation	5
Mathematics, Logic, and Language (except Statistics)	5
Models	4
Communications Content Analysis	4
Experimentation	4
Tests and Scales	4
Machine Operations (incl. computers)	3
Legal Research	2
Methodology Unknown or Unascertainable	46

Source: Original Data (see Inventory).

^a Listing based on Alfred de Grazia's "A Topical and Methodological Index to Select Current Works in Social and Behavioral Science," published monthly in *The American Behavioral Scientist*.

Statistical analysis is also a common type of investigation in the national government. Statistical analysis goes hand-in-hand with economic analysis at the national level, and agencies producing economic data make heavy use of statistical methods. Two agencies are distinguished by the fact that many others make extensive use of the statistics they produce and pay them to do special surveys—the Bureau of the Census and the Bureau of Labor Statistics. The Bureau of the Census produces data on many facets of American life other than its well-known decennial headcounts. And the Bureau of Labor Statistics, has, for example, conducted surveys for the National Science Foundation on scientific manpower and other subjects. Finally, the Bureau of the Budget plays a role in the production of government statistics through its functions of setting government-wide statistical standards and of clearing all questionnaires which are distributed by government agencies to the public.*

Federal research includes many *psychological, educational, and sociological studies*. Studies concerned with education or training procedures are part of the research programs of many agencies. The Department of Defense has a very large commitment in this field. The Human Resources Research Office is a leading training-research-oriented, private, contract agency, and it does much of the Army's work in this field. The other armed services perform most of their training research intramurally.* The Office of Education has what is perhaps the largest program of education and training research in the entire government. It is a program of nation-wide impact, involving as it does contracts of nearly \$11 million annually to university researchers and others for the performance of educational research.*

Psychological research and mental-health-related studies

TABLE VI: Primary Scientific Fields of Study of New NIMH Research Grants, Fiscal Year 1961

PRIMARY FIELD OF STUDY	Number of Grants	Percentage
<i>Psychology</i>	<u>587</u>	<u>46%</u>
Clinical	71	
Comparative	41	
Developmental	38	
Educational	12	
Experimental	188	
Industrial	8	
Personality	62	
Physiological	42	
Psychometrics and Statistics	29	
Social	91	
Other	5	
<i>Psychiatry</i>	<u>137</u>	<u>11</u>
<i>Other Medical Sciences</i>	<u>69</u>	<u>5</u>
Epidemiology	9	
Geriatrics	9	
Neurology	39	
Obstetrics, Gynecology	1	
Pathology	2	
Pediatrics	9	
<i>Biological Sciences</i>	<u>189</u>	<u>15</u>
Anatomy	3	
Biochemistry	73	
Biophysics	2	
Genetics	10	
Pharmacology	54	
Physiology	47	
<i>Social Sciences</i>	<u>94</u>	<u>7</u>
Anthropology	43	
Criminology	2	
Sociology	49	
<i>Other</i>	<u>210</u>	<u>16</u>
Administration	45	
Education, Training	23	
History	6	
Information Processing Techniques	3	
Law	3	
Mathematics	2	
Nursing	6	
Public Health	12	
Social Work	44	
Speech	8	
Miscellaneous	58	
TOTALS	<u>1,286</u>	<u>100%</u>

Source: U.S. Department of Health, Education and Welfare, Public Health Service, *The Research Grant Program of the National Institute of Mental Health, A Source Book of Descriptive Data, Fiscal Year 1961*.

also receive broad governmental support. The dominant agency in this field is, of course, the National Institute of Mental Health (NIMH), which currently grants nearly \$50 million annually for a wide variety of studies.* The

TABLE VII: Selected Social Science Research Grants of the National Institute of Mental Health

Total for Social Science approximately \$50 million annually.

Total Number of Grants approximately 1800.

TITLE	Principal Investigator and/or Institution	Total First-Year Support
TYPICAL GRANTS		
Alcoholism Nomenclature and Classification	M. Keller, North Amer. Assoc. of Alcoholism Programs (Berkeley Calif.)	\$12,075
Assessment of Dependency and Hopelessness-Helpllessness	J. F. French, Jr., Univ. of Michigan	4,200
Bibliography on Behavior Development in Infancy	Y. Brackbill, Univ. of Denver	4,200
The Child's Acquisition of Grammar	R. W. Brown, Harvard Univ.	36,409
Children's Responses to Novel and Complex Stimuli	G. N. Cantor, Univ. of Iowa	15,545
Chronic Drug Studies of Animal Behavior	L. S. Otis, Stanford Research Institute	24,000
A Comparative Study of Perception in Primates	R. T. Davis, Univ. of Oregon	17,683
Comparisons of Speech and Speechlike Sound Perception	J. R. Bastian, Univ. of Calif. at Santa Barbara	4,111
Coding and Rehearsal Methods in Short-Term Memory	W. A. Wickelgren, M.I.T.	3,818
Cumulative Scaling and Error Estimation	E. F. Borgatta, Univ. of Wisconsin	19,770
Integrated Adolescent Physical-Mental Health Program	J. P. Michelson, Jewish Hospital of Brooklyn	41,474
Interdisciplinary Investigation of Learning Disorders	N. D. Bryant, Albany Medical College	25,000
Language Scatter Scores and Response to Speech Training	M. J. Mechan, Univ. of Utah	1,035
Mental Health Project-Social Adjustment Center	E. Goldman, Nat. Council of Jewish Women, Chicago Section—Social Adjustment Center	12,500
Neurochemical Correlates of Behavior	M. H. Aprison, Indiana Univ. Foundation	26,220
NIMH-PSC Collaborative Study of Phenothiazines	W. J. Kernohan, Kentucky Mental Health Foundation	75,000
Problem Prevention in the Primary Grades	K. B. Clark, Northside Center for Child Development, Inc. (New York City)	92,000
The Psychophysiology of Conditioning and Extinction	W. G. Reese, Univ. of Arkansas	38,277

TITLE	Principal Investigator and/or Institution	Total First-Year Support
Psychosomatic Phenomena in Animals	R. Ader, University of Rochester	\$31,232
Physiological Studies in Experimental Alcoholism	G. Barlow, Univ. of Tennessee	13,238
Physiology and Psychophysiology of Sleep and Dreaming	H. P. Roffwarg, Columbia Univ.	7,591
Resistance in Applicants for Psychological Treatment	M. S. Krause, Family Service of Cincinnati and Hamilton County	12,796
Scaling Relative Reinforcing Properties of Stimuli	C. C. Perkins, Jr., Emory Univ.	9,250
Social and Hereditary Factors in Nervous Instability	J. A. King, Michigan State Univ.	22,597
Stimulus Generalization as a Function of Mental Age	V. J. Tempone, Univ. of New Hampshire	2,921
Stimulus Generalization and Its Natural Correlates	N. Guttman, Duke Univ.	32,400
Studies in Efficiency and Psychopathology	J. Wishner, Univ. of Penn.	21,539
Studies of Hunger	J. K. Bare, Carleton College	2,364
Studies on Oxidative and Protosynthetic Phosphorylation	A. R. Krall, Univ. of Miami	17,989
Training for Work with Troubled Preschool Children	I. Kraft, Children's Guild, Inc. (Baltimore)	68,489
Work Inhibition and Motivation in Learning	R. F. Weiss, Ohio State Univ. Research Foundation	21,137

ATYPICAL GRANTS

Cross-National Research on Social Psychology of Aging	R. J. Havighurst, Univ. of Chicago	8,457
The Development of Family Relationships	H. Feldman, Cornell Univ.	31,696
Factors in Urban Adjustment	R. A. White, St. Louis Univ.	4,056
Herman Rorschach—His Life and Work	W. Schwarz	10,754
Juvenile Delinquency in Japanese-American Populations	H. H. Kitano, UCLA	17,663
Street Corner Groups and Patterns of Delinquency	J. F. Short, Jr., Washington State Univ.	36,672

Source: U.S. Department of Health, Education, and Welfare, Public Health Service, Public Health Service Grants and Awards Fiscal Year 1963 Funds, Part I (Research Grants), 1963.

NIMH thus conducts the largest single federal social science research grant program. (Table VI gives some indication of the nature of the program.) Its diversity is readily apparent, as is its emphasis on psychology, including social psychology, and psychiatry, which accounted for 57% of the agency's grants in fiscal 1961. Other studies in fields peripheral to the agency's major research mission in

mental health, received 43% of the grants. Many other agencies have psychological research programs, particularly other units of the Department of Health, Education, and Welfare, as well as the Defense Department.*

Research in social psychology and sociology receives support in a number of agencies, among them the NIMH, the NSF, and several agencies of the Defense Department.

TABLE VIII: Selected Social Science Research Grants of the Office of Education

Total for Social Science approximately \$10.3 million annually.^a

Total Number of Grants approximately 75 annually.^b

TITLE	Principal Investigator and/or Institution	TITLE	Principal Investigator and/or Institution
TYPICAL GRANTS			
Communication of Information in Elementary Classrooms	M. Deutsch, New York Medical College	Study of the Communication Problems and Their Effect on the Learning Potential of the Mentally Retarded Child	N. E. Wood, Western Reserve Univ.
Construction of a General Ability Group Test for Puerto Rican Students in Elementary and Secondary Schools	P. Roca, Univ. of Puerto Rico	A Study to Identify Factors Related to Withdrawal and Means of Increasing Holding Power of Secondary Schools in Iowa	K. B. Hoyt, Iowa State, Dept. of Public Instruction
Contract Correcting—The Use of Lay Readers to Assist High School English Teachers in Grading Compositions	E. H. Saver, Harvard Univ.	A Study of the Modification of Parental Attitudes Toward and Understanding of Mentally Retarded Children	D. B. Harris, Univ. of Minnesota
The Development of Discrimination Learning Set in Pre-School Children, Fifth Graders, College Freshmen, and the Aged	B. Levinson, Univ. of Buffalo	A Study of Non-Intellectual Factors in Superior, Average, and Slow High School Students	E. M. Drews, Michigan State Univ.
Development and Evaluation of Speech Improvement Program for Kindergarten and First-Grade Children	M. C. Byrne, Univ. of Kansas	Understanding the Fourth-Grade Slump in Creative Thinking	E. P. Torrance, Univ. of Minnesota
The Effectiveness of a Modified Counselling Procedure in Promoting Learning Among Bright Underachieving Adolescents	M. V. McCarthy, Regis College	ATYPICAL GRANTS	
The Effectiveness of Teaching Reading in Kindergarten	J. E. Brzeinski, Colorado State, Dept. of Education	Measurement and Evaluation of Change in College Women	M. B. Freedman, Vassar College
Effects of Test Anxiety and Instructional Context on Problem Solving	S. J. Blatt, Yale Univ.	Procedures for Identifying Persons with Potential for Public School Administrative Positions	E. L. Morphet, Univ. of Calif. at Berkeley
An Investigation of Factors Related to Educational Discontinuance of College-Ability High School Students	D. Andrew, Southern State College (Magnolia, Ark.)	Teaching Language Arts to the Non-English Speaking Children of Guam	J. G. Cooper, Territorial College of Guam
Item Analysis, Test Design, and Classification	H. Solomon, Stanford Univ.	<p><i>a. National Science Foundation, Federal Funds for Science XI, 1963.</i></p> <p><i>b. U. S. Department of Health, Education, and Welfare, Research Projects of the Cooperative Research Program: A Five-Year Summary, July 1, 1956-September 30, 1961, 1962.</i></p> <p><i>Source: Same as (b) above.</i></p>	

The government also has large commitments in the fields of human engineering and human factors research. In fact, much of the research of this kind that is carried on in the United States is supported by government contract, and the Defense Department and National Aeronautics and Space Administration seem to dominate these efforts.¹¹

Many other agencies are involved in a wide variety of psychological-sociological studies. The Inventory should be consulted for a more detailed picture.

Demographic and manpower studies are conducted primarily in the Bureau of the Census and the Department of Labor. Other agencies that have a significant concern with this kind of inquiry are the Civil Service Commission,

the armed services, and the National Science Foundation (concerned with government, military, and scientific manpower, respectively).*

Finally, *administrative and management studies* receive wide attention in the federal government. Centers of this activity are the Civil Service Commission and the Bureau of the Budget which serve as management consultants to many other government agencies. But at the same time, most agencies have research staff members who produce reports in the field of administration, usually for the express use of internal decision-makers.* Agencies occasionally support extramural research in administration. For example, the Small Business Administration recently provided \$2 million in support of a program for extra-

TABLE IX: Selected Social Science Research Projects of the U.S. Army

Total for Social Science approximately \$7.5 million annually.^a

Total Number of Projects in excess of 100.^{b, d, e}

TITLE	Principal Investigator and/or Organization	Approximate Annual Support
(A) U.S. Army Personnel Research Office^c		\$1.2 million^b
Identification and Measurement of Psychological Factors Related to Operation of Fighting Vehicles	P. J. Bersh	
Identification of Personal Characteristics Related to Successful Performance in Overseas Assignments	—	
Methods for Improving Enlisted Input Quality	E. F. Fuchs	
Prediction of Effective Officer Performance	L. V. Gordon	
Psychological Factors in Image Interpretation	J. Zeidner	
(B) Special Operations Research Office^d	American University	\$0.4 million^b
Area Handbooks for Burma, Columbia, Finland, Iraq, etc.		
Brainwashing: A Partial Bibliography		
Summary Accounts of 23 Revolutions		
Case Study in Guerrilla War: Greece During World War II		
Socio-Psychological Information on Hungarian Refugees		

TITLE	Principal Investigator and/or Organization	Approximate Annual Support
(C) Human Resources Research Office^e	George Washington University	\$2.4 million^b
Army Aviation Helicopter Pilot Training	C. M. Colgan	
Developing Training Methods Best Suited to Selected Military Training Problems	R. J. Seidel	
Human Factors Influencing Span of Control Within Military Organizations	H. C. Olson	
Human and Organization Factors Affecting the Civilian-Military Transition of Army Recruits	R. Snyder	
Improvement of the Combat Proficiency of the Light Weapons Infantryman	T. F. Nichols	
Methods for Improving Tank Crew Performance	S. Schwartz	
Training in Special Warfare, Counter-Insurgency, and Related Missions	A. J. Kraemer	
Training of Potential Non-commissioned Officers	P. D. Hood	

- a. National Science Foundation, Federal Funds for Science XI, 1963.*
- b. Col. G. J. Bayerle, Jr., Chief, Human Factors Research Division, Office of the Chief of Research and Development, Army Research Office.*
- c. U.S. Army Personnel Research Office, Work Program, U.S. Army Personnel Research Office, Fiscal Year 1963, 1963.*
- d. Special Operations Research Office, SORO Research and Development Studies, 1962.*
- e. Human Resources Research Office, HumRRO, Work Program, Fiscal Year 1963, 1963.*

mural research in areas of administrative and fiscal management of relevance to the problems of small business.*

Methods of Research

The *methodological emphases* of federal research programs are much more difficult to map than are the subject-matter emphases, and are largely beyond the reach of this study. Nevertheless, a few areas of concentration are discernible at this level of inquiry. (See Table V.)

First, it is clear that the most widely used methodology is *statistical analysis*, which has already been discussed above. Second, *sampling, censuses, questionnaires, and interviews* are all widely used in government studies. In most cases these tools of investigation are used to provide the data for statistical analyses in the studies produced from government sample surveys and censuses—of the Bureau of the Census and the Bureau of Labor Statistics, for example. In some cases, however, these methods are

used for smaller-scale studies. For example, the U.S. Board of Parole used questionnaires in a recent study of youthful offenders.*

The *analysis of temporal sequences* and projection of trends set of techniques is used frequently in government research. Most of the agencies which produce economic data do projection studies; among them are the Office of Business Economics, the Council of Economic Advisers, the Bureau of Labor Statistics, and the Federal Reserve System.* Other agencies support historical or biographical projects. For example, the Economic Research Service in the Agriculture Department is writing a history of agriculture (See Table XIII), and the State Department's Bureau of Intelligence and Research Analysis has a sizeable section which writes and collects biographies of political personalities of all nations.¹²

Many other methods are used in federally sponsored research; in fact, it is highly probable that all known methods

Total for Social Science in excess of \$9 million annually.^a

Total Number of Projects in excess of 170.^b

TITLE	Principal Investigator and/or Organization	Approximate Annual Support	
		less than \$25,000	to \$50,000
TYPICAL GRANTS			
Sensory Mechanisms			
Visual Adaptation at Various Levels of Illumination	H. D. Baker, Florida State Univ.	X	
Response of the Accommodation Mechanism	G. Westheimer, Ohio State Univ.	X	
Temporal Sensory Integration	J. J. Zwislocki, Syracuse Univ.	X	
Neural and Perceptual Processes			
Visual Perception	C. H. Graham, Columbia Univ.	X	
Brain Organization and Behavior	D. B. Lindsley, Univ. of Calif.	X	
Motor Mechanisms			
Display, Control, and Transmission of Information	A. Chapanis, Johns Hopkins Univ.	X	
A Continuous Measure of Response	J. M. Notterman, Princeton Univ.	X	
Aircrew Visual Aids	A. M. Marks, Marks Polarized Corp.	X	
Psychological Traits			
Psychological Problems	H. Gulliksen, Princeton Univ.	X	
Abilities Underlying Human Tracking Behavior	J. F. Parker, Matrix Corp.	X	
Selection Methods and Performance Criteria			
Techniques in Multiple Differential Prediction	P. Horst, Univ. of Washington	X	
Evaluation of Personnel Selection Systems	R. C. Hackman, Psychological Service of Pittsburgh	X	
Learning and Training			
Factors Influencing the Learning and Retention of Verbal Materials	B. J. Underwood, Northwestern Univ.	X	
Factors Underlying Disciplinary Offenses	D. Courtney, Courtney and Co. Philadelphia	X	

TITLE	Principal Investigator and/or Organization	Approximate Annual Support	
		less than \$25,000	to \$50,000
Individual Effectiveness			
Leadership and Group Effectiveness	B. M. Bass, Louisiana State Univ.	X	
Group Effect on Tension Patterns and Motivation	M. Horwitz, New York Univ.	X	
Behavioral Changes Under Psychological Stress	V. Nowlis, Univ. of Rochester	X	
Group Effectiveness			
Group Efficiency and Group Process in Problem Solving	H. Solomon, Columbia Univ.	X	
The Effects of Changes in Communication Patterns	R. Chin, Boston Univ.	X	
Communication Processes in Task Oriented Groups	T. B. Roby, Tufts Univ.	X	
Bases and Effects of Systems of Communication	K. W. Back, Duke Univ.	X	
Engineering Psychology			
Effect of Redundancy in Information Displays	J. Lyman, Univ. of Calif.	X	
Psychological Research in Target Tracking	R. Chernikoff, U.S. Naval Research Lab.	X	
ATYPICAL GRANTS			
Consulting and Advisory Services	L. Carmichael, Smithsonian Institution	X	
Editorial Service for Human Engineering Guide to Equipment Design	C. T. Morgan, McGraw-Hill Book Co., Inc.	X	
High-Level Aptitudes	J. P. Guilford, Univ. of S. Calif.	X	

Source: Department of the Navy, Office of Naval Research, *Naval Research Area: RR 006, Psychological Sciences, Annual RDT&E Program Report, 1961, 1961.*

a. National Science Foundation, *Federal Funds for Science XI, 1963.*

b. Same as source.

c. \$100,000—\$500,000 annually.

of social science research are employed in federally conducted or supported projects. But further analysis on the basis of readily available—and some not so readily available—sources would yield little clearly useful data.

In summation, subject-matter concentrations are in the fields of economics, statistics, sociological and psychological studies, demographic and manpower studies, and administrative studies. Clearly discernible methodological concentrations are found in areas of statistical analysis, sampling, censuses, questionnaires, interviews, and the analysis of temporal sequences.

The Great Domains

A number of research programs are cast in sharp relief from the tableau of government research efforts by their size or other characteristics. These are the great domains of federally-sponsored social research.

Foremost among these is the *National Institute of Mental Health*. It is primarily a research grant program, providing funds for external research. Grants vary in size and are typically allocated for a wide variety of psycho-

TABLE XI: Selected Social Science Research Projects of the U.S. Air Force

Total for Social Science approximately \$7.2 million annually.^a

Total Number of Projects in excess of 50.^b

TITLE	Principal Investigator and/or Organization	Approximate Annual Support	TITLE	Principal Investigator and/or Institution	Approximate Annual Support
MAN-MACHINE SYSTEMS					
Techniques for Minimizing Forgetting	J. A. Adams, Univ. of Illinois	\$22,000	External vs. Internal Control of Behavior—A Study of Personality	J. B. Rotter, Ohio State Univ.	\$31,000
Information-Handling and Decision-Making by Individuals and Small Teams	P. M. Fitts, Univ. of Michigan	35,000	Effects of Cerebral Lesions on Respiration and Timing	L. Weiskrants, Univ. of Cambridge (England)	14,000
Comparative Study of Learning Reinforcement in Verbal Behavior	J. W. Moore, Bucknell Univ.	7,000	Interpersonal Attraction and Repulsion	P. Worchel, Univ. of Texas	21,000
UNIT PERFORMANCE AND ORGANIZATIONAL STRUCTURE					
Cumulative Scaling and Error Estimation	E. F. Borgatta, Univ. of Wisconsin	22,000	Study of Self-Management Techniques for Stressful Conditions	A. D. Biderman, Bureau of Social Science Research	55,000
Measurement of Attitude and Attitude Change	S. W. Cook, New York Univ.	26,000	Sensitization of Inadequate Symbolic Configurations	H. Zimmer, Univ. of Georgia	36,000
Value Acts and Situational Variables in Organizational Behavior	E. Haas, Ohio State Univ.	18,000	PERSUASIVE COMMUNICATIONS AND EFFECTIVE INTERACTION WITH FOREIGN CULTURES		
Performance of Leaders under Conditions of Group Support and Non-Support	C. McClintock, Univ. of Calif.	15,000	Investigation of Youth Motivation	J. Fishman, Howard Univ. Medical School	7,000
Formal and Behavioral Factors in Decision Processes	A. Scodel, Ohio State Univ.	28,000	Negotiation and Decision-Making in Complex Organizations	J. McGrath, Univ. of Illinois	16,000
Effects of Change in Group Composition on Performance	R. C. Ziller, Univ. of Delaware	20,000	Studies in Anticipations as Factors in Persuasion Analysis	J. Nehnevajsa, Univ. of Pittsburgh	38,000
PSYCHOLOGICAL FACTORS IN INDIVIDUAL PERFORMANCE					
Somatosensory Factors in Proximate Distance Judgment	R. Davidson, Bryn Mawr College	17,000	ANALYTICAL AND PREDICTIVE STUDIES OF FOREIGN SOCIAL SYSTEMS		
Psychophysical Relations in the Perception of Space, Time, and Velocity	G. Ekman, Univ. of Stockholm (Sweden)	5,000	Predictive Model for Intra-Group Negotiation	O. Bartos, Univ. of Hawaii	14,000
Learning Concepts and Rules	M. Goldstein, Princeton Univ.	26,000	Patterns of Organizations and Communication: The New Nations	S. Lipset, Univ. of Calif.	35,000
Comparative Studies of Vigilance	H. Jerison, Antioch College	28,000	<i>Source: Air Force Office of Scientific Research, "Contract and Grant Listing, Behavioral Sciences Division, 1 Nov. 1962."</i>		
Correlates of Ambivalence, Risk Taking and Rigidity	A. Minkowich, Hebrew Univ. (Israel)	17,000	<i>a. Col. S. E. Lifton, Special Assistant for Research, Office of the Assistant for Bioastronautics, U.S. Air Force Systems Command and estimate by E. B. Berlinrut, New York representative of the RAND Corporation on the amount of social science at RAND; also Dr. H. J. Sander, Project Scientist, Air Force Office of Scientific Research.</i>		
Verbal Learning and Verbal Behavior	L. J. Postman, Univ. of Calif.	5,000	<i>b. Dr. Herman J. Sander, Project Scientist, Behavioral Sciences Division, Air Force Office of Scientific Research.</i>		

logical studies, though some funds are devoted to other subjects. Within the field of psychology the emphasis is on the experimental, clinical, and social areas. (See Table VI.) Recipients of grants are primarily affiliated with universities or health facilities. (See Table VII.)

The *Office of Education* spends nearly \$11 million annually for social science research. Like NIMH, its programs are largely extramural. Most projects are concerned with primary and secondary education, while some are related to advanced and even adult education. The variation is considerable, from a Harvard study on the possi-

bility of hiring persons to assist high school teachers of English, to studies on various aspects of mental retardation, to curriculum development in the social studies. Almost all these funds go to colleges and universities, and to state education facilities. (See Table VIII.)

The *Department of Defense* has many different programs which are related to social science research.

The *Department of the Army* has extensive intramural and extramural programs. Its total annual expenditure for social science research is approximately \$7.5 million, with the greatest concentration of funds in the U.S. Army

TABLE VIII: Outline of the Social Science Research Program of the Office of Civil Defense

Total for Social Science approximately \$800,000 annually.^a

Total Number of Grants Unknown.

Some Areas of Investigation^b

1. Primary (physical) and secondary (sociological and psychological) effects of a nuclear attack on the United States
2. Development of data-monitoring system to systematically measure civil defense attitudes and changes in them
3. Seven national opinion surveys since 1950, primarily on attitudes towards civil defense and the possibility of a nuclear war
4. Comparison of adoption-diffusion, social action, and decision-making in communities in areas of relevance to civil defense
5. The impact of civil defense on society
6. Values in a democratic society
7. Human behavior in bomb shelter conditions
8. The vulnerability of public utilities to military attack

Some Extramural Organizations Involved in Program^a

1. *Shelter Management Studies* approx. \$375,000 annually
University of Georgia
American Institute for Research
2. *Sociological and Psychological Studies* approx. \$425,000 annually
U.S. Department of Health, Education, and Welfare
Simulmatics Corp.
Columbia University
Iowa State University
Michigan State University
University of Pittsburgh

a. W. W. Johnson, Executive Assistant, Research Directorate, Office of Civil Defense, Department of Defense.

b. R. L. Garrett, "Generalizations about the Social Science Research Program of the Office of Civil Defense—Department of Defense," a presentation made at the American Orthopsychiatric Association meeting on March 7, 1963, Shoreham Hotel, Washington, D. C.

Personnel Research Office (USAPRO), the Special Operations Research Office (SORO), the Human Resources Research Office (HumRRO), and the Research Analysis Corporation (RAC, formerly the Operations Research Office at Johns Hopkins University). (See Table II.) The bulk of Army social science research consists of personnel research and human engineering studies, exemplified by the work of HumRRO and USAPRO. But there is also extensive war gaming, at RAC for example, and there are specialized studies of other kinds, such as the guerilla warfare research performed at SORO. The Army has many other research facilities; a detailed description of this complex structure appears in the Inventory. (See Table IX.)

The *Department of the Navy* specializes largely in psychological research, much of which is performed extramurally. It also conducts a much less extensive in-house program of social science research. Its annual expenditures for social science research exceeds \$9 million. (See Table II.) Major efforts are in the areas of sensory mechanisms, neural and perceptual processes, motor mechanisms, psychological traits, selection methods and performance criteria, learning and training, individual ef-

TABLE XIII: Selected Intramural Social Science Research Projects of the Economic Research Service, Department of Agriculture

Total ERS Funds for Social Science approximately \$9.5 million annually.^a

Total Number of Projects in excess of 350.^b

TYPICAL PROJECTS

1. Measurement of Components of Farm-to-Retail Price Spreads for Selected Food Commodities on a Continuing Basis
2. Costs and Margins of Marketing Livestock, Meats, and Meat Products
3. Flexibility of Manufacturing Plants in the Production of Various Dairy Products
4. Changes in Quality and Value of Cotton Bales and Samples during Storage
5. Market Potentials for Dialdehyde Starch and its Derivatives in Industrial Uses
6. The Effect of Various Promotional Techniques on Lamb Sales
7. Market Analysis and Development of the Desert Citrus Industry
8. Surveys and Analyses of New Food Distribution Programs for Low-Income Households
9. Charges and Practices in Marketing Cotton
10. An Appraisal of Pooling Practices Used by Dairy Cooperatives
11. Agricultural Production Risks in the Great Plains Area
12. Classification and Analysis of Kinds and Sizes of Farms
13. Measurement and Analysis of Progress in Farm Mechanization
14. National Land Use Inventory
15. Current Outlook and Situation Analysis for Livestock and Meats
16. Current Estimates and Analyses of Migration of the Farm and Rural Population
17. Analysis of the Role of Agriculture in Foreign Economic Development and Growth
18. Analysis of U.S. Agricultural Trade
19. Foreign Competition and Demand, Western Europe

ATYPICAL PROJECTS

1. Study of Canadian Tobacco Auctions
2. Analysis of Savings and Investments of Farm Operators
3. Organization and Financing of Local Government in Rural Areas, with Special Emphasis on Rural Areas Influenced by Suburban and Industrial Development
4. Analysis of Land Tenure Problems and Policies of Puerto Rico
5. Service Work on the History of Agriculture, Including Collection, Maintenance, and Analysis of Historical Data
6. Analysis and Assessment of the Economic Effects of the P.L. 480 Program in Spain

a. National Science Foundation, *Federal Funds for Science XI*, 1963.

b. Economic Research Service, Department of Agriculture, "Annual List of ERS Projects Active during the Year Ending December 31, 1963," mimeographed for internal use.

fectiveness, group effectiveness, and human engineering. (See Table X.) The Navy seems to use business and research firms to perform its social science research more than do the other armed services, which rely more on universities and colleges. (Compare Tables IX, X, and XI.)

TABLE XIV: Selected Department of Agriculture Social Science Research Projects Performed Extramurally

Total Departmental Funds for Social Science approximately \$20.0 million annually.^a

Total Number of Projects in This (Title II RMA Contracts) Part of Program approximately 20.

TITLE	Contracting Organization	Amount of Support
ECONOMIC RESEARCH SERVICE		
A Study of Grain Transportation in the Southwest	Agri Research, Inc. (Manhattan, Kans.)	\$25,000
A Study of Market Intelligence in the Livestock and Feed Grain Industries in the Southwest	Agri Research, Inc. (Manhattan, Kans.)	25,000
An Evaluation of the Impact of Food Retailing by Discount Houses on Food Distribution	Audits and Surveys (New York City)	22,250
Evaluation of Uses of Central Food Preparation and Distribution in Urban School Systems	Battelle Memorial Institute (Columbus, Ohio)	25,575
Collection and Interpretation of Data Regarding Selected Factors Influencing the Rate of Agricultural Development in Selected Foreign Countries	Food and Agricultural Organization (Rome)	91,840
An Economic Study of Farm Service Buildings in Iowa	Iowa State Univ.	26,890
An Analysis of Household Purchase Data for Frozen Concentrated Orange Juice	Marketing Research Corp. of America (New York City)	9,140
A Study of Cost and Efficiency in Processing Pork	National Independent Meat Packers Assoc. (Washington, D.C.)	10,000
A Study of Cost and Efficiency in Processing Beef	National Independent Meat Packer Assoc. (Washington, D.C.)	10,000
A Study of Information Needs for Managerial Decision-Making in Marketing Firms, etc.	Purdue Univ. Agricultural Experiment Station	30,000
A Study to Develop an Analytical Procedure and to Provide Information for Selecting Manufacturing Activities Suitable for Development in Rural Areas	Stanford Research Institute (Menlo Park, Calif.)	35,294

TITLE	Contracting Organization	Amount of Support
A Study of Quality and Operational Variables in Cotton Carding	Triangle Research Institute (Durham, N.C.)	\$40,000
FARMER COOPERATIVE SERVICE		
A Study of Increasing Efficiency in the Procurement and Transportation of Containers and Packaging Supplies for Fresh Fruit and Vegetables by Marketing Cooperatives in Florida, California, and Washington	Agri. Research, Inc. (Manhattan, Kans.)	12,000
An Evaluation of Adjustments in Grower Payment Methods of Florida Citrus Marketing Organizations as a Result of the 1962 Freeze	Univ. of Florida	4,000
A Study to Appraise Farmers' Group or Pool Buying of Feed Ingredients in Selected Localities of Illinois	Univ. of Illinois	4,150
An Evaluation of Factors Influencing Wool Marketing Decisions of Iowa Farmers	Iowa State Univ.	7,500
STATISTICAL REPORTING SERVICE		
Investigating the Feasibility of Photographically Detecting and Identifying Livestock, Row Crops, and Grains	Itek Laboratories (Palo Alto, Calif.)	19,562
A Survey to Ascertain Home-maker's Use and Opinions about Poultry	Opinion Research Corp. (Princeton, N.J.)	82,700
<i>Source: F. V. Waugh, Research Adviser, Economic Research Service, U.S. Department of Agriculture, contracts for 1963.</i>		
<i>a. National Science Foundation, Federal Funds for Science XI, 1963.</i>		

The Department of the Air Force supports more than \$7 million worth of social science research annually. (See Table II.) Its major social science research branches are the Air Force Systems Command, which specializes in human engineering, training research, and personnel research; the Behavioral Sciences Division of the Office of Aerospace Research, which is the major contract-awarding unit; and the Air Force's primary civilian contract organization, the RAND Corporation. A sample of the wide variety of research projects supported by AFOSR, in its Behavioral Sciences Division is listed in Table XI. The

RAND Corporation has been performing a huge segment of scientific research for the Air Force since its inception in 1946. Among RAND's social science research areas have been cost and economic analysis, other economic studies, foreign political studies, game theory, and systems analysis.¹³

The Office of Civil Defense spends approximately \$800,000 annually for social science research. (See Table II.) Its chief areas of interest are survey research on attitudes toward civil defense, studies of the impact of civil defense on society, human behavior under a

TABLE XVI: Selected Social Science Research Research Projects of the Agency for International Development

Total for Social Science approximately \$8.6 million annually.

Total Number of Projects approximately 30.

TITLE	Contractor	Amount of Support
International Air Transport Study	Bureau of the Budget	\$ 50,000
Preparation for U.S. Participation in U.N. Conference on the Application of Science for the Less Developed Nations	None	140,000
Research on the Shortage of Power in Rural Areas	(a) General Electric, M.I.T., Stanford Research Institute, CARE (b) Fairbanks-Morse (c) Hoffman Electronics Corp.	355,000 74,569 28,625
Relationships between Military and Economic Assistance	RAND Corporation	26,262
World Trade Patterns Projection and Analysis	Yale Univ.	35,000
Quantitative Study of Economic Structure and Growth	Yale Univ.	880,743
Development of Planning and Planning Assistance Criteria	National Planning Assoc.	735,598
Participant Training Evaluation Survey	Bureau of Social Science Research	276,000
Investigation of the Applicability of Recent Educational Developments to Africa	Educational Services, Inc.	204,512
Land Reform Activities in Latin America	Univ. of Wisconsin	1,250,000
Basic Research on Job Performance Standards	American Institute for Research	284,030
U.S. Public and Private Cooperation in Stimulating Economic Enterprises in Less Developed Countries	National Planning Assoc.	122,000
Land Tenure and Land Reform in Puerto Rico	U.S. Department of Agriculture	15,000

TITLE	Contractor	Amount of Support
Transportation and Mobility in the Less Developed Countries	Brookings Institution	\$1,469,720
Development Research Review	National Planning Assoc.	53,520
A.I.D. Publication Review	American Institute for Research	10,000
Evaluation of A.I.D. Participant Training in the U.S.	American Institute for Research	37,797
Development of a Demonstration Educational Research Center	Michigan State Univ.	610,000
Communications and Technical Change in Latin America	American Institute for Research	70,000
Participation in Joint AID/STATE/USIA Research in Factors Contributing to Maladaptation of Government Employees Overseas	State Dept. Division of Personnel	2,500
Evaluation of Popular Reception of the Alliance for Progress in Five Latin American Countries	U.S. Information Agency	120,000
The Potential Role of Television in Community Instruction for the Support of Social and Economic Development	Warwick Company (Chicago)	400,000
Legal Aspects of Land Reform	American Bar Foundation	340,000
Research on New Techniques for Training Teachers of English	English Language Services, Inc.	410,960
Health Manpower Training	Johns Hopkins Univ.	234,684

Source: J. T. Houk, Research Specialist, Research and Evaluation Staff, Office of Human Resources and Social Development, Agency for International Development.

possible nuclear attack, and the economic vulnerability of the United States to attack. (See Table XII.)

In *summation*, the Department of Defense commits a total of more than \$24 million annually for a wide variety of social science research. (See Table II.) But this amounts to only about 12% of all the federal monies allocated to social science research, while the Defense Department budget is approximately equal to the combined budgets of all other federal agencies.¹⁴ Through \$24 million may be an impressive figure in itself, it constitutes less than one two-thousandth (.0005) of the more than \$50 billion spent by the Department annually, and is probably the lowest relative rate of support for social science in the entire government.

The *Department of Agriculture* is another of the relatively large federal domains of social science research. Unlike the Defense Department programs, many of those of the Department of Agriculture are conducted intramurally. The *Economic Research Service* spends about \$9 million annually on more than 350 projects stressing agricultural marketing and economics, both domestic and foreign. (See Table XIII.) It is divided into six major units: the Economic and Statistical Analysis Division, the Farm Production Economics Division, the Resource Development Economics Division, the Marketing Economics Division, the Development and Trade Analysis Division, and the Regional Analysis Division.* The large-scale extramural research of the Department is supervised pri-

TABLE XV: Selected Extramural Social Science Research Projects of the Department of State, External Research Staff

Total Departmental Funds for Social Science approximately \$13 million annually.^a

(Total in External Research Staff program approximately \$100,000 annually.)

Total Number of Projects in External Research Staff program approximately 40.

Communist Internal Warfare and the Security of the Underdeveloped States
The Foreign Policy of a Major Neutral Country
The International Law of Sovereign Immunity
Weighted Voting in the United Nations General Assembly
Study of Latin American Political Parties
Potentialities of Closer Regional Organization in Latin America
The Implications of International Monopolistic Practices for United States' Foreign Economic Policy
Africa — The Upcoming "Second" and "Third" Generation Leadership Groups
Working Conditions in Africa
One-Party State Systems in Africa
Politics and Political Parties in the Middle East
The Evolution of a Leading Middle Eastern Political Party
Regional Problems in Southeast Asia
Chinese Communist Leadership Study
North Korean Political Maneuvers
Chinese Communist Power Position Study
Study of Political Systems in Asia

a. See Table II

Source: W. J. Nagle, Director, External Research Staff, Department of State.

marily by the *Cooperative State Experiment Station Service*, which grants more than \$8 million annually to State Agricultural Experiment Stations throughout the United States for research in rural life and agricultural marketing.¹⁵ The Department has only a few contracts for social science research. Examples are listed in Table XIV.

The *State Department* conducts three major research programs. Intramurally, most research in social science is conducted by the *Bureau of Intelligence and Research*, which spends more than \$3 million annually on research in political, sociological, cultural, and psychological fields in foreign areas. Extramural programs are sponsored by the External Research Staff of the Intelligence Bureau at the approximate annual rate of \$100,000, and by the *Agency for International Development*, which is sponsoring a new program of more than \$8 million annually for research in various economic and sociological fields of relevance to economic development. Most of the funds are received by business and private, non-university research organizations. (See Tables XV and XVI.) And finally, the *Bureau of Educational and Cultural Affairs* sponsors social science institutes and research by American social scientists in foreign countries.*

The *Bureau of the Census* is the government's largest source of statistical data and spends an average of \$20

TABLE XVII: Selected Social Science Research Projects of the Veterans' Administration

Total for Social Science approximately \$2 million annually.^a

Total Number of Projects Unknown.

TITLE	Principal Investigators	Location
A Comparison of Response Set Tendencies in a Normal and Schizophrenic Sample	E. Klein and L. Solomon	VAH ^b Montrose, N.Y. and Boston Univ.
Effects of Practice on Word Fluency in Schizophrenic Patients	M. P. Smith and R. Maroney	Univ. of Colorado and VAH American Lake, Wash.
Utilization of Learning Time	I. M. Hurlicka and L. D. Rust	VAH Buffalo, N. Y.
The Electroencephalogram as an Experimental Tool in the Study of Internal Attention Gradients	T. Mulhol-land	VAH Bedford, Mass.
Employment after Hospitalization: A Psychiatric Orientation for Texas Employment Personnel	P. G. Hanson, P. Rot- haus, S. E. Cleveland, D. L. John- son, and D. McCall	VAH Houston, Tex.
Stimulus Input and Overload in Relation to Classifica- tions of Schizophrenia	D. Pearl	VAH Battle Creek, Mich.
Achievement Motivation and Disparity between Life Goal and Present Status	G. Rein- manis	VAH Center, Bath, N.Y.
The Prediction of Release and Post Hospital Adjustment from Mental Hospital Work Performance	J. H. Vitale and L. S. Levine	VAH Palo Alto, Calif. and San Francisco State College
Compliance and Non-Compliance during Long-Term In- stitutionalization	Various Investigators	in 8 VA Centers
A Study of the Effects of Staff Attitudes on Hospitalized Patients	Various Investigators	in 16 VA Hospitals

Source: Veterans' Administration Center, Kecoughtan, Va., News- letter for Research in Psychology, Vol. 4, No. 4 (Nov., 1962.)

a. National Science Foundation, Federal Funds for Science XI, 1963.

b. VAH—Veterans' Administration Hospital.

million annually to produce such data. (See Table II.) Only a very small amount of the Bureau's work is performed extramurally. In addition to its population statistics, the Bureau collects data on such things as business, manufacturing, agriculture and foreign trade.* The importance of the Bureau to federal social science lies primarily in the fact that other agencies depend on it for basic statistical data on many facets of American life. Many agencies also receive help and counsel from the Census Bureau on aspects of their own research work.

The *Veterans' Administration* can be included as one of the great social science domains in government not so much because of the magnitude of the expenditures it

TABLE XVIII: Selected Social Science Research Projects of the National Aeronautics and Space Administration

Total for Social Science approximately \$6 million annually.

Total Number of Projects approximately 40.

TITLE	Principal Investigator and/or Institution	Approximate Annual Support
Feasibility and Methodology for Establishing Communication between Man and Other Species	J. D. Lilly, Communication Research Institute of St. Thomas, V. I.	\$80,000
Cerebral Neurophysiology and its Application to Monitoring, and Data Recording and Interpretation, of the Physiological States of Sub-Humans and Humans in Space Flight Conditions	W. R. Adey, Univ. of Calif. (Los Angeles)	150,000
Economic and International Policy Questions Associated with Communication Satellites, etc.; Conduct Studies of the Economic Implications of Meteorological Satellites, etc.	RAND Corporation	150,000
Role of Experiences in the Etiology of Animal and Human Physiological and Behavioral Responses to Situational Stress in Later Life	J. P. Henry, Univ. of S. Calif.	100,000
Experimental and Theoretical Investigation of the Ability of Human Operators to Perform Tasks under Controlled Conditions	J. E. Arnold, Stanford Univ.	40,000
Socio-Economic Analysis of the Effects of the Expansion of Space and Space-Related Activities on Local Communities	W. H. Miernyk, Univ. of Colorado	60,000
Human Factors Criteria and Control-Navigation Display System Requirements for Spacecraft Missions	R. C. Casperson, Dunlap and Associates, Inc. (Conn.)	63,000
Definition of an Effective Program for the Study of the Social and Economic Impacts of Space Technology	T. H. Carroll, George Washington Univ.	5,000
Statistical and Analytical Investigations of the Relation between Government - Financed Research and Development and Resultant Inventions	A. E. Burns, George Washington Univ.	100,000
Physiological and Psychological Responses to the Force Environments Generated by Rotational Motions Occurring in the Operation of Aircraft and Space Vehicles	A. Graybiel, U.S. Navy School of Aviation Medicine	280,000

TITLE	Principal Investigator and/or Institution	Approximate Annual Support
Predicting Success in Scientific Laboratories from Biographical Information	C. W. Taylor, Univ. of Utah	\$13,000
The Impact of Science and Technology upon the Economy and Public Affairs	M. Grodzins and T. L. Whisler, Univ. of Chicago	45,000
Influence of Confinement in a Restricted Environment and a Reduced Physical Activity on the Ability of a Spacecraft Crew to Perform Critical Mission Tasks during Lunar Landing, Rendezvous, and Re-Entry	Martin Marietta Corp.	160,000
Complex Behavioral Repertoires under Full Environmental Control	J. D. Findley, Univ. of Maryland	300,000
Organizational and Management Concepts Suitable for Large - Scale Technology-Based Enterprises (with particular reference to NASA)	D. G. Marquis, M.I.T.	220,000
Variations of the Electroneurophysiological Correlates and Task - Performance under Conditions of Controlled Stimuli	L. E. Proctor, Henry Ford Hospital (Mich.)	40,000
An Administrative History of NASA	Short and Rosholt, Univ. of Minnesota	8,000
Problems of States with Agrarian Economies in Contributing to the Major Scientific and Technical Needs of the Space Age	A. D. Suttle, Mississippi State Univ.	70,000
Impact of Space Activities on the National Economy, and the Establishment of a Methodology for Determining Space Program Effects on Regional Economic Growth	W. Z. Hirsh, Washington Univ. (St. Louis)	100,000
Seminar of Mass Media Policy-Makers to Determine and Investigate Problems in and Special Requirements for the Communication of Public Information on Space Science	E. W. Barrett, Columbia Univ.	30,000

Source: Office of Grants and Research Contracts, National Aeronautics and Space Administration, Grants and Research Contracts, Active Grants and Contracts, 1 July 1963; and G. L. Simpson, Jr., Asst. Administrator for Technology Utilization and Policy Planning, National Aeronautics and Space Administration.

TABLE XIX: Selected Social Science Research Grants of the National Science Foundation

Total for Social Science in excess of \$10 million annually.^a

Total Number of Grants in excess of 230.^b

TITLE	Principal Investigator and/or Institution	Approximate Annual Support
PSYCHOLOGY^b		
Relation between Thalamic Connections of Auditory System and Behavior	M. Lyon, Adelphi College	\$14,600
Consolidation Time for Visual Perception	H. Schlosberg, Brown Univ.	32,200
Research on Schedules of Reinforcement	W. N. Schoenfeld and W. M. Cumming, Columbia Univ.	40,000
Physiological Properties of Taste Cells	L. M. Beidler, Florida State Univ.	90,300
Studies on Location of Responding	R. J. Herrnstein, Harvard Univ.	32,800
Analysis of Complex Behavioral Processes	B. F. Skinner, Univ. of Illinois	50,900
Role of the Unconditioned Stimulus in Eyelid Conditioning	I. Gormezano, Indiana Univ. Foundation	14,600
Behavioral and Psychophysiological Effects of Thermal Environments	W. H. Teichner, Univ. of Massachusetts	32,700
Studies of Reinforcement	K. MacCorquodale and P. E. Meehl, Univ. of Minnesota	18,800
Generalized Reinforcement	R. Lawson, Ohio State Univ. Research Foundation	8,600
Context Effects in Relation to Auditory and Visual Perception	J. Beck and W. A. Shaw, Univ. of Pennsylvania	34,300
Comparative Learning and Problem Solving Abilities	D. M. Rumbaugh and J. A. Gengerelli, San Diego State College Foundation	17,900
Retention of Connected Discourse	N. J. Slamecka, Univ. of Vermont and State Agri. College	16,400
OTHER SOCIAL SCIENCE^c		
Prehispanic Paintings at Pottery Mound	F. C. Hibben, Univ. of New Mexico	1,000
Gwelo Urban Study	W. B. Schwab, Temple Univ.	3,000
Uses of Plants by Man	M. A. Towle, Harvard Univ.	14,000
Linguistic Distributions in Co-territorial Societies	U. Weinreich, Columbia Univ.	51,900
Archaeological Investigation of the Arctic Slope of Northern Alaska	J. M. Campbell, George Washington Univ.	14,900

TITLE	Principal Investigator and/or Institution	Amount of Support
Social Change in Bombay	H. Orenstein, Tulane Univ.	\$2,400
Cultural Interrelations during the Bronze and Early Iron Ages	S. Foltiny	3,100
Floral Environment of the Paipai	R. C. Owen and C. H. Muller, Univ. of Calif. at Santa Barbara	3,100
Change and Stability in India	C. DuBois, Harvard Univ.	14,800
Late Pleistocene and Early Recent Deposits of New Mexico	F. Wendorf, Museum of New Mexico	15,700
Animal Remains from Archaeological Sites	R. J. Drake, Univ of British Columbia	8,300
Extra-Familial Kinship	R. Firth, Univ. of London (England)	44,600
Monographs on the Economics of Invention	J. Schmookler, Univ. of Minnesota	9,600
Economic Methods for Measuring Behavior	M. Nerlove, Stanford Univ.	34,300
Statistics Relating to Investment	G. H. Moore and R. Lipsey, National Bur. of Economic Research	30,000
Models of Urban Land Use	B. H. Stevens, Regional Science Research Inst.	41,700
Intergenerational Occupational Mobility	P. M. Blau and O. D. Duncan, Univ. of Chicago	123,300
Bargaining and Group Decision-Making	S. Siegel, Penn. State Univ.	49,700
Professions in American Society	T. Parsons, Harvard Univ.	40,000
Cognitive Change and Motivation	A. R. Cohen, New York Univ.	39,100
Bio-Chemical Correlates of Aggressiveness	W. W. Lambert, Cornell Univ.	12,000
History of Physical Sciences	I. B. Cohen, Harvard Univ.	25,000
Scientific Organization in 19th Century America	E. Lurie, Wayne State Univ. (Mich.)	12,400
Documentary Material on Quantum Theory	J. A. Wheeler, American Institute of Physics	203,000

a. National Science Foundation, Federal Funds for Science XI, 1963.

b. National Science Foundation, National Science Foundation, 11th Annual Report, 1961, 1962.

c. Division of Social Science, National Science Foundation, "Division of Social Science Grant List, July 1960 through June 1961," mimeographed for internal use.

classifies as being for social science—only about \$2 million annually¹⁶—but because of the large number of social science personnel it employs—approximately 1,200.* Its program is concerned primarily with research in abnormal

psychology, with special stress on schizophrenia. Sociological research on human relations in hospitals is also emphasized. (See Table XVII.) The program is almost exclusively intramural.

The *National Aeronautics and Space Administration* has an extensive program of social science research, expending more than \$6 million annually. The range of sponsored projects is very broad, with special emphases in the areas of human engineering, physiological psychology, and the impact of technological developments on society. The program is largely extramural. (See Table XVIII.)

And finally, the *National Science Foundation* has programs which distribute more than \$10 million annually in research funds. These emphasize sociology, anthropology, economics, and psychology. Grants are also given for documentation research and for studies in the history and philosophy of science. Recently the Foundation has made it known that it will accept proposals for research in political science, a reversal of past policy.* (See Table XIX.)

In *summation*, the great domains of federal social science research are many and varied, supporting research in practically all fields of social science, but devoting disparate proportions of resources among them. For example, the NIMH grant program, which overshadows all other government social science programs for extramural research, is centered on psychological topics. Agencies such as the Department of Agriculture and the Agency for International Development place heavy stress on economic and sociological studies.

Political science is of relatively little concern to the federal government, though some such research is conducted or supported by such agencies as the State Department and the Army. Its focus, though, is almost always foreign, seldom if ever on the United States. Of all the social sciences, however, history is the least used or supported by the government; only in special aspects—military history, economic history, history of science—does it have a small role in federal programs of social research. The emphasis remains on psychological, statistical, and economic research.

The Grey Areas

There are many areas of federal social science research which are difficult to report. Chief among these is the *Central Intelligence Agency*. The little knowledge available on it clearly places much of its work within the bounds of this discussion. In fact, it may perform more social science research than any other federal agency. We know that the agency is the government's authority on economic conditions and trends behind the Iron Curtain, that the agency engages in much analysis of newspapers and other publications, that it collects and analyzes the reports of other United States agencies with operations abroad.¹⁷ The research required to support such activities includes economic analysis, information storage and retrieval systems operations and research, and perhaps efforts to achieve an economically feasible level of machine translation of foreign documents into English. In addition, it is probable that the CIA conducts, or contracts out, research on the training and selection of various kinds of personnel, and research on foreign political developments. Finally, the CIA may support projects dealing with the computer-simulation of social systems.

In any case, the CIA would appear to sponsor a large amount of social science research. It might even be argued that *all* CIA activities fall in the realm of social science inasmuch as the chief statutory activities of the agency are to gather information about the activities of human beings in foreign lands, to analyze the collected data, and to make projections and predictions based on the results.¹⁸ If this view is at all accurate, the sparse reportage of CIA scientific activities may seriously affect efforts to gauge accurately federal social science activities. Undoubtedly the work of the CIA must, for the most part, remain confidential. But it might be useful if the organization could release, for the benefit of scientists, more information and methodological innovations emerging from its work, whose publication would not be detrimental to our security or foreign relations.

There are *other governmental areas* where the prevalence of secrecy does not permit full disclosure of social science activities. One of these, of course, is the Department of Defense, where one may guess the existence of many projects kept secret for reasons of national security. A second is the Department of State's External Research Staff, which sponsors an undisclosed number of secret projects and handles the external work of the CIA.¹⁹ A third area is the Office of Emergency Planning, a staff agency of the Presidency. Its Natural Resources Evaluation Center may produce data in its field of endeavor which might be revealed for the use of scientists without jeopardizing the nation's security. Not even the location of this agency is publicly known. Fourth, much of the opinion research and analysis related to the evaluation of the American image abroad, performed by the U.S. Information Agency, is not published.²⁰ And finally, there are probably phases in the scientific work of every agency involved in social science research which are not released because of the demands of national security.

Another unknown area is that of *in-house research projects*. Most intramural government social science research is conducted for the benefit of agency officials, and for this reason much of it does not get past the mimeograph stage. Cases in point are the vast amounts of research performed in the Economic Research Service of the Department of Agriculture and in the State Department's Bureau of Intelligence and Research. It would be very difficult to secure complete reportage of such activities. The expense involved in the cost accounting of such projects would in itself probably create a formidable barrier to such an exercise.

Another type of in-house work which is sparsely reported is the social research performed for Congress. Much of the work of many consultants and staff members of Congressional committees is not readily available. Similarly, a full report of the work of the Library of Congress's Legislative Reference Service, an important source of information on Capitol Hill, can not be secured.

The unknown areas of federally-sponsored social science research are extensive. As a result, useful data and findings secured in these studies may elude all but those researchers who are directly associated with them.