The Rockefeller Foundation

Annual Report 1952

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1952

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Chester I. Barnard[1]
William H. Claflin, Jr.
Karl T. Compton
John S. Dickey
Harold W. Dodds
Lewis W. Douglas
John Foster Dulles[2]
Herbert S. Gasser
Wallace K. Harrison
Robert F. Loeb
Robert A. Lovett
Henry Allen Moe
William I. Myers
Thomas Parran
John D. Rockefeller, 3rd
Dean Rusk
Geoffrey S. Smith
Robert G. Sproul
Robert T. Stevens[3]
Arthur Hays Sulzberger
Henry P. Van Dusen

EXECUTIVE COMMITTEE

The President, *Chairman*

Harold W. Dodds
John Foster Dulles[2]
Wallace K. Harrison[3]
Robert F. Loeb
Henry Allen Moe
John D. Rockefeller, 3rd
Robert T. Stevens[4]
Geoffrey S. Smith, *alternate member*[5]
Henry P. Van Dusen, *alternate member*

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Arthur Hays Sulzberger, *alternate member*
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The Chairman of the Board of Trustees

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Director for the Division of Natural Sciences and Agriculture
Warren Weaver
Deputy Director for Agriculture
J. G. Harrar
Director for the Division of Social Sciences
Joseph H. Willits
Director for the Division of Humanities
Charles B. Fahs

COUNSEL

Chauncey Belknap
Vanderbilt Webb

BOARD OF CONSULTANTS FOR MEDICINE AND PUBLIC HEALTH

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Ward Darley[3]
John H. Dingle[3]
A. McGehee Harvey[3]
Hugh R. Leavell[3]
Hugh J. Morgan

BOARD OF CONSULTANTS FOR AGRICULTURE

E. C. Stakman, *Chairman*

Gustav Bohstedt
Richard Bradfield
P. C. Mangelsdorf
Ernest C. Young

[1] Retired June 30, 1952.
[2] Resigned December 2, 1952.
[3] Effective April 2, 1952.
[4] Effective December 2, 1952.
[5] Effective July 1, 1952.

THE ROCKEFELLER FOUNDATION
Trustees, Officers, and Committees
1953

TRUSTEES

Detlev W. Bronk[1]
William H. Claflin, Jr.
Karl T. Compton[2]
John S. Dickey
Harold W. Dodds
Lewis W. Douglas
Herbert S. Gasser
Wallace K. Harrison
John R. Kimberly[1]
Robert F. Loeb
Robert A. Lovett
John J. McCloy[1]
Henry Allen Moe
William I. Myers
Thomas Parran
John D. Rockefeller, 3rd
Dean Rusk
Geoffrey S. Smith
Robert G. Sproul
Robert T. Stevens[3]
Arthur Hays Sulzberger
Henry P. Van Dusen

EXECUTIVE COMMITTEE

The President, *Chairman*

Wallace K. Harrison
John R. Kimberly[1]
Robert F. Loeb
Robert A. Lovett[1]
Henry Allen Moe
John D. Rockefeller, 3rd
Robert T. Stevens[3]
John S. Dickey, *alternate member*[1]
Geoffrey S. Smith, *alternate member*
Henry P. Van Dusen, *alternate member*[4]

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William H. Claflin, Jr.
John J. McCloy[1]
Lewis W. Douglas, *alternate member*
Geoffrey S. Smith, *alternate member*[1]

The President
The Chairman of the Board of Trustees

OFFICERS

Chairman of the Board of Trustees
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H. Malcolm Gillette[1]
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Charles B. Fahs

COUNSEL

Chauncey Belknap
Vanderbilt Webb

BOARD OF CONSULTANTS FOR MEDICINE AND PUBLIC HEALTH

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John H. Dingle
A. McGehee Harvey
Herman E. Hilleboe[1]
Hugh R. Leavell
Robert A. Moore[1]

BOARD OF CONSULTANTS FOR AGRICULTURE

E. C. Stakman, *Chairman*[5]

Gustav Bohstedt
Richard Bradfield[6]
P. C. Mangelsdorf
Ernest C. Young

[1] Effective April 1, 1953.
[2] Retirement effective June 30, 1953.
[3] Resigned January 16, 1953.
[4] Until April 1, 1953.
[5] Until June 30, 1953.
[6] Until March 31, 1953.
[7] Effective July 1, 1953.

To the Trustees of The Rockefeller Foundation

GENTLEMEN:

I have the honor to transmit herewith the Annual Report of the work of The Rockefeller Foundation for the period January 1, 1952 to December 31, 1952, including detailed reports of the Treasurer of the Foundation and the Directors of the Divisions of Medicine and Public Health, Natural Sciences and Agriculture, Social Sciences, and Humanities.

Respectfully yours,

DEAN RUSK
President

FOREWORD
BY THE
PRESIDENT

FOREWORD BY THE PRESIDENT

FOREWORD BY THE PRESIDENT

THE Annual Reports of The Rockefeller Foundation are usually accompanied by a review of the work of the Foundation prepared by the President. The primary purpose of such a review has been to invite attention to developments of particular significance and to provide to the public and to educational and research institutions a broad view of the policies which govern the activities of the Foundation. For two reasons a President's Review does not accompany this Annual Report for 1952. First, Mr. Chester I. Barnard retired as President on June 30, 1952, after four years of distinguished and effective service. His last review accompanied the Annual Report for 1951, which appeared in mid-1952, and ably set forth the policies and program of the Foundation that were current at the time of his retirement. Second, the incoming President, who assumed office on July 1, 1952, was largely preoccupied during the last six months of the year with an examination of the 40-year record of The Rockefeller Foundation in preparation for the Congressional investigation of tax-exempt foundations.

While such an examination had obvious advantages for a new President, it left little opportunity for a re-

flective consideration of future Foundation activity. The policies of The Rockefeller Foundation are determined by its Board of Trustees, with the advice and recommendations of its officers. Although points of emphasis have shifted over the years in response to changing conditions and opportunities, the Trustees have taken into full account the importance of continuity and sustained effort.

Summary of Appropriations in 1952

The Rockefeller Foundation made appropriations in 1952 amounting to $16,640,355. Of this amount, $3,599,698 was applied to work in medicine and public health; $3,862,150 to natural sciences and agriculture; $4,366,835 to the social sciences; $1,335,075 to the humanities; and $1,369,720 to general projects which cut across or lay outside of the above categories. In addition, $2,106,877 was appropriated for general administrative expenses and field offices. The year's appropriations in the Divisions of Medicine and Public Health and of Natural Sciences and Agriculture included $1,071,958 to maintain field staffs in 1953.

Seen from another point of view, of the total appropriations made by the Foundation in 1952, $10,936,520 was appropriated by the Board of Trustees and by its Executive Committee to institutions and for specified projects, and $2,525,000 was appropriated for new awards of fellowships and grants in aid to be made by the officers on the basis of general appropriations by the Board.

A financial statement for the year 1952 appears on pages 421–422 of this Annual Report. Descriptions of

grants are to be found in the sections devoted to the work of the several divisions.

Changes in the Board of Trustees

On December 2, 1952 the Honorable John Foster Dulles resigned as Chairman of the Board in consequence of his designation by President-elect Eisenhower as the Secretary of State in the new administration. Mr. Dulles had served as a Trustee of the Foundation since 1935 and as Chairman of the Board since 1950. The Board of Trustees elected Mr. John D. Rockefeller, 3rd, to succeed Mr. Dulles as its Chairman. Mr. Rockefeller has served as a Trustee since 1931 and brings to the chairmanship a devoted interest in the work of the Foundation and a broad experience in philanthropy and public service.

Mr. Chester I. Barnard retired as a Trustee on June 30, 1952. Mr. Robert T. Stevens, chairman of the board of J. P. Stevens, Inc., of New York, was elected to membership on the Foundation's Board of Trustees on April 2, 1952 but resigned in January 1953 upon his appointment as Secretary of the Army.

Organization Changes

Four new members were appointed to the Foundation's Board of Consultants for Medicine and Public Health in 1952. These were Ward Darley of Denver, John H. Dingle of Cleveland, A. McGehee Harvey of Baltimore, and Hugh R. Leavell of Boston.

The two new members of the Board of Consultants for Agriculture are Gustav Bohstedt, chairman of the

Department of Animal Husbandry at the University of Wisconsin, and Ernest C. Young, dean of the Graduate School of Purdue University.

Staff changes for the Division of Medicine and Public Health during 1952 included two resignations. Mr. Marston Bates resigned on August 31 to go to the University of Michigan as a full professor in the Department of Zoology. Mr. Stuart F. Kitchen resigned on June 30 to accept an appointment in the Laboratory of Hygiene of the Department of National Health and Welfare in Ottawa, Canada. Two new staff appointments were Jordi Casals-Ariet, who is at the Foundation's New York virus laboratories, and Telford Hindley Work, who is assigned to the virus research program, with headquarters in Cairo.

The Division of Natural Sciences and Agriculture called John J. McKelvey, Jr., from the Mexican Agricultural Program office to become Assistant Director of the division in the New York office, effective July 1. Mr. Kenneth Wernimont, former agricultural attaché in the American Embassy in Mexico, was appointed the division's Assistant Administrator for Agriculture, effective June 1. The new members of the staff for the Mexican Agricultural Program are G. Mallory Boush, Assistant Entomologist; Reggie J. Laird, Assistant Soils Scientist; and William D. Yerkes, staff member in training. Mr. Robert F. Ruppel, Associate Entomologist, formerly with the Mexican Agricultural Program staff, was transferred to the office in Colombia. Other new members of the Colombian staff are Lee E. Heidrick, Assistant Horticulturist; Guy

B. Baird, Assistant Soils Scientist; and Robert L. Skiles, Assistant Plant Pathologist.

Mr. Herbert A. Deane, political science instructor at Columbia University, was appointed Consultant to the Division of Social Sciences; his appointment was effective September 1, 1952.

Applications Declined during 1952

The Foundation, as may be expected, receives many more applications for aid than it can grant. During 1952 it was found necessary to decline 3,577 applications. Some of these applications represented projects within the Foundation's fields of interest, which were declined because other projects seemed more promising, or for various other reasons; but by far the greater number of these applications were declined because they were outside the program upon which the Foundation is at present concentrating.

The Foundation does not make gifts or loans to individuals, finance patents or altruistic movements involving private profit, contribute to the building or maintenance of local hospitals, churches, schools, libraries, or welfare agencies, subsidize cures or inventions, or support campaigns to influence public opinion.

The general headings under which the 3,577 applications may be described are as follows: fellowships, scholarships, and travel and training grants, 1,652; support (including buildings and endowments) of institutions of purely local character, for example,

hospitals, churches, schools, and museums, 353; support of scientific research projects and teaching programs, 350; general development of educational and cultural institutions, projects, and materials, 343; personal aid to individuals, 196; publication of miscellaneous manuscripts, 112; studies and activities in the creative arts, 99; cures, remedies, investigation of theories and inventions, 70; continued aid to previously supported projects, 52; conferences and meetings, 43; public health projects, 24; purchase or disposal of real and personal property, 20; charitable agencies or programs, 18; assistance to displaced persons, 8; miscellaneous, 237.

Meetings

During 1952 regular meetings of The Rockefeller Foundation were held on April 2 and December 2 and 3. Six meetings of the Executive Committee were held in 1952 to take actions within general policies approved by the Trustees.

The Congressional Investigation of Foundations

On April 4, 1952 the House of Representatives passed House Resolution 561, which created a Select Committee and instructed it "to conduct a full and complete investigation and study of educational and philanthropic foundations and other comparable organizations which are exempt from Federal income taxation to determine which such foundations and

organizations are using their resources for purposes other than the purposes for which they were established, and especially to determine which such foundations and organizations are using their resources for un-American and subversive activities or for purposes not in the interest or tradition of the United States." The Select Committee was further instructed to report to the House of Representatives on or before January 1, 1953.

The membership of the Select Committee consisted of the late Congressman Eugene E. Cox (D.-Ga.), as Chairman, Congressmen Brooks Hays (D.-Ark.), Aime J. Forand (D.-R.I.), Donald L. O'Toole (D.-N.Y.), Richard M. Simpson (R.-Pa.), Angier L. Goodwin (R.-Mass.), and B. Carroll Reece (R.-Tenn.). The committee selected Mr. Harold M. Keele of Chicago as its General Counsel.

On October 2, 1952 the Chairman of the Select Committee forwarded to The Rockefeller Foundation, among others, a questionnaire containing some 90 questions about the organization, finances, and program of the Foundation. The Foundation submitted an extensive reply to the questionnaire on October 31, 1952, a reply which it has been informed was placed in the Library of Congress at the conclusion of the committee's work.

Public hearings were held by the Select Committee in Washington during the period November 18 to December 30, 1952. Appearing as witnesses on behalf of The Rockefeller Foundation were the President, Mr. Dean Rusk; Mr. Chester I. Barnard, a former President; and Mr. John D. Rockefeller, 3rd, Chair-

man of the Board of Trustees. The Select Committee submitted a report to the House of Representatives on January 1, 1953. Both the report and the testimony taken at the hearings were published promptly by the United States Government Printing Office.

The Rockefeller Foundation has, since its inception in 1913, followed the practice of making its activities and policies fully known to the public through its President's Reviews, Annual Reports, and other publications. A most valuable general account of its work is to be found in Mr. Raymond B. Fosdick's *The Story of The Rockefeller Foundation*, published in 1952. Much of this public record was again summarized in testimony before the Select Committee and in the Foundation's reply to the committee's questionnaire.

In preparing materials that might be helpful to the committee, the Foundation assembled a brief statistical summary, which, brought up to date by the inclusion of figures for 1952, is given below as a matter of possible interest:

Statistical Summary, 1913–1952

TABLE 1

SUMMARY FACTS ABOUT THE ROCKEFELLER FOUNDATION, THE GENERAL EDUCATION BOARD, AND THE INTERNATIONAL EDUCATION BOARD *

TOTAL AMOUNT OF GRANTS MADE AS OF DECEMBER 31, 1952: $875,155,482

	*The Rockefeller Foundation**	*General Education Board*	*International Education Board*	*Totals*
Founded	By John D. Rockefeller, 1913.	By John D. Rockefeller, 1902.	By John D. Rockefeller, Jr., 1923.	
Organization	Incorporated by special act of New York State legislature.	Incorporated by special act of Congress, 1903.	Incorporated under the laws of the State of Virginia.	
Purpose	"To promote the well-being of mankind throughout the world."	"The promotion of education within the United States of America, without distinction of race, sex, or creed."	"The promotion and/or advancement of education, whether institutional or otherwise, throughout the world."	
Management	Board of twenty-one trustees, elected for three-year term.	Board of Trustees, not less than nine nor more than seventeen in number, elected for three-year term.	Board of Trustees, not less than five nor more than fifteen in number, elected for three-year term.	
Program	(1) Grants to institutions and agencies in support of projects in fields of: Medicine and Public Health Natural Sciences and Agriculture Social Sciences Humanities (2) Work in public health and agriculture conducted by Foundation staff. (3) Fellowships and travel grants for individuals.	(1) Grants toward support of educational institutions, agencies, and projects. (2) Fellowships for individuals.	(1) Grants toward support of educational institutions, agencies, and projects. (2) Fellowships for individuals. Program terminated in 1938.	

Total Funds Received from Donors (at value when received)	$316,220,394	$140,077,228	$21,116,785	$477,414,407
Existing Principal Fund (at market December 31, 1952)	336,556,038	5,732,418	None	342,288,456
Total Income Collected	404,137,032	126,613,729	6,684,776	537,435,537
Total Amount of Grants	540,856,208	315,965,984	18,333,290	875,155,482
From Principal	152,090,545	181,734,189	11,837,482	345,662,216
From Income	388,765,663	134,231,795	6,495,808	529,493,266
Total Amount of Grants to Recipients in U. S.	374,606,756	315,965,984	8,925,805	699,498,545
Total Amount of Grants to Recipients in Foreign Countries	166,249,452	None	9,407,485	175,656,937
Total Number of Grants Made	31,004	11,100	1,016	43,120
Total Number States (U. S.) in which Grants have been Made	48 (plus Alaska, Hawaii, Puerto Rico, and District of Columbia)	45 (including District of Columbia)	9	48 (plus Alaska, Hawaii, Puerto Rico, and District of Columbia)
Total Number U. S. Institutions and Organizations to which Grants have been Made	650	595	12	1,111 (omitting duplications)
Total Number Foreign Countries and Areas in which Grants have been Made	80	None	22	80 (omitting duplications)

* The General Education Board and the International Education Board are included in this broad summary because, although independent organizations, they were also endowed by Mr. Rockefeller, Sr., and his son, and their programs have been closely related to and have supplemented the work of the Foundation. The International Education Board no longer exists, having exhausted its funds in 1938. Figures for the Laura Spelman Rockefeller Memorial, established in 1918 by John D. Rockefeller, Sr., are combined with those of The Rockefeller Foundation; the Memorial was consolidated with the Foundation in 1929.

TABLE 2

THE ROCKEFELLER FOUNDATION

EXPENDITURES BY YEARS

May 22, 1913 to December 31, 1952

Year	*Expenditures*	*Year*	*Expenditures*
1913–14	$2,571,903	1934	$12,584,124
1915	3,415,587	1935	12,711,564
1916	6,035,510	1936	13,366,334
1917	11,452,971	1937	10,581,391
1918	15,049,086	1938	12,738,722
1919	7,737,385	1939	12,896,393
1920	7,066,685	1940	10,762,775
1921	7,548,005	1941	10,076,968
1922	15,904,448	1942	9,081,731
1923	8,409,283	1943	7,062,778
1924	7,288,350	1944	6,657,567
1925	9,109,125	1945	7,653,075
1926	9,733,706	1946	9,803,768
1927	11,201,159	1947	22,300,346
1928	21,637,923	1948	13,770,715
1929	19,038,921	1949	12,863,473
1930	15,726,860	1950	12,521,479
1931	17,475,902	1951	16,806,355
1932	13,734,484	1952	19,215,677
1933	14,745,077		
		TOTAL 1913–1952	$458,337,605 *

* Does not include expenditures of the Laura Spelman Rockefeller Memorial prior to its consolidation with The Rockefeller Foundation.

TABLE 3

THE ROCKEFELLER FOUNDATION

EXPENDITURES* BY TYPE OF GRANT

May 22, 1913 to December 31, 1952

Year	For Land, Buildings, and Fixed Equipment	For Endowment and Capital Funds	For Current Support of Institutions, Agencies, Projects, and Fellowships
1913–14	$852,202	$.....	$1,719,701
1915	222,895	1,228,851	1,963,841
1916	369,613	1,921,149	3,744,748
1917	232,991	3,000,000	8,219,979
1918	1,866,547	.....	13,182,539
1919	2,432,552	.....	5,304,833
1920	2,776,830	100,000	4,189,855
1921	1,506,235	1,000,000	5,041,770
1922	2,088,603	9,677,113	4,138,733
1923	1,449,937	2,600,000	4,359,346
1924	1,348,140	1,093,299	4,846,912
1925	3,080,809	344,622	5,683,694
1926	3,631,617	185,820	5,916,268
1927	4,772,074	596,347	5,832,738
1928	2,480,184	13,889,169	5,268,570
1929	2,849,350	3,592,651	12,596,920
1930	4,630,087	850,000	10,246,772
1931	2,628,994	2,604,479	12,242,429
1932	995,896	1,284,821	11,453,766
1933	1,736,178	961,205	12,047,695
1934	805,085	962,694	10,816,345
1935	518,676	1,947,069	10,245,819
1936	365,802	2,122,699	10,877,833
1937	551,208	479,423	9,550,760
1938	791,939	444,011	11,502,772
1939	478,710	1,823,081	10,594,603
1940	312,077	2,450,339	8,000,360
1941	130,960	600,000	9,346,008
1942	*Cr. 19,737*	500,000	8,601,468
1943	88,303	.....	6,974,475
1944	149,808	.....	6,507,760
1945	111,830	.....	7,541,245
1946	29,199	.....	9,774,569
1947	423,571	10,091,855	11,784,919
1948	879,230	153,259	12,738,226
1949	317,253	.....	12,546,220
1950	95,212	.....	12,426,267
1951	46,483	1,500,000	15,259,871
1952	205,027	2,000,000	17,010,650
TOTALS	$48,232,370	$70,003,956	$340,101,279

* Does not include expenditures of the Laura Spelman Rockefeller Memorial prior to its consolidation with The Rockefeller Foundation.

TABLE 4

THE ROCKEFELLER FOUNDATION

EXPENDITURES IN SELECTED FIELDS OF MAJOR INTEREST

May 22, 1913 to December 31, 1952

Public Health and Medical Sciences	$227,981,638
Natural Sciences and Agriculture	43,335,198
Social Sciences	63,775,805*
Humanities	26,816,321

* This figure does not take into account the $55,339,816 expended by the Laura Spelman Rockefeller Memorial, largely for work in the social sciences, prior to its consolidation with The Rockefeller Foundation in 1929.

TABLE 5

THE ROCKEFELLER FOUNDATION

EXPENDITURES BY GEOGRAPHIC AREAS

May 22, 1913 to December 31, 1952

United States	$307,731,550
Foreign	
North America (other than U. S. A.)	16,404,827
Central America	1,334,252
South America	14,752,788
West Indies	2,017,058
Europe	69,252,079
Africa	1,932,248
Near East	5,451,195
Far East	35,044,412
Australasia	1,613,234
Other (including League of Nations, United Nations, etc.)	2,803,962
TOTAL	$458,337,605*

* Does not include expenditures of the Laura Spelman Rockefeller Memorial prior to its consolidation with The Rockefeller Foundation.

DIVISION OF MEDICINE
AND PUBLIC HEALTH

DIVISION OF MEDICINE AND PUBLIC HEALTH

1952

[1] Effective April 2, 1952; name changed from Board of Scientific Consultants.
[2] Effective April 2, 1952.

MARSTON BATES, PH.D.[1]
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JOHN C. BUGHER, M.D.[2]
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HENRY P. CARR, M.D.
JOSEPH C. CARTER
JORDI CASALS-ARIET, M.D.[3]
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WILBUR G. DOWNS, M.D.
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ROBERT B. WATSON, M.D.
JOHN M. WEIR, M.D.
LORING WHITMAN, M.D.
D. BRUCE WILSON, M.D.
TELFORD HINDLEY WORK, M.D.[5]
C. BROOKE WORTH, M.D.

[1] Resignation effective August 31, 1952.
[2] On leave of absence, serving with the Division of Biology and Medicine of the Atomic Energy Commission.
[3] Effective August 1, 1952.
[4] Resignation effective June 30, 1952.
[5] Effective July 15, 1952.

DIVISION OF MEDICINE AND PUBLIC HEALTH

DIVISION OF MEDICINE AND PUBLIC HEALTH

THE Division of Medicine and Public Health in 1952 completed the first full calendar year of operation under the new combined program. In this program the activities connected with medicine proper and those that have to do with public health are closely intertwined. The Division of Medicine and Public Health envisages the problems of these formerly separate fields as a new and integrated field of action.

One of the relatively undeveloped activities within this enlarged field of action is that of wide health care. The problem of providing adequate health services for all the people of a nation as variegated and as huge as the United States is not an easy one. In per capita wealth the United States leads the world. It should, and does, lead also in the provision of high quality medical care; however, many difficulties of distribution of physicians, medical education, and methods of medical practice remain to be solved. Under the current program, and for some years past, the Foundation has endeavored to assist in the solution of some of these difficulties through

the support of objective studies and experimentation designed to provide factual, impartial data.

Following former efforts in the control of specific diseases, which included the now terminated campaign against yellow fever, the Division of Medicine and Public Health has embarked on a program of virus research. Yellow fever is a virus disease, as are influenza and the common cold, on all of which the Foundation has in the past financed research. The yellow fever investigations that were actively pursued in a number of countries led to the discovery of a number of new and potentially dangerous viruses. The present program aims to study these viruses from many aspects and in various parts of the world. During 1952 work was continued at field laboratories established by the Foundation in Poona, India, in collaboration with the Indian Medical Research Council, and at the United States Naval Medical Research Unit in Cairo, Egypt. Preparations are going forward to open a new virus laboratory in Port of Spain, Trinidad. Extensive virus material collected mostly on the continent of Africa is under further study at the central laboratory of the Division of Medicine and Public Health in New York. For the details on this virus research, the reader is referred to subsequent sections of this report.

Other challenging problems have to do with activities of the Foundation in Europe through its Division of Medicine and Public Health. The Foundation is taking an interest in nursing, in sanitary engineering, and in research having to do with insec-

ticides. Many countries in Europe are changing over from the apprenticeship system of nursing to one stressing professional education. England, Denmark, Germany, Holland, Italy, and Switzerland are strengthening their engineering schools, thus affording opportunities for aid in raising the standards of sanitary engineering. One troublesome problem in connection with modern insecticides has been that flies and certain other insects are developing a resistance which they formerly did not possess. The Foundation is interested in this problem because of the important role played by insecticides both in disease control and in agriculture.

At various centers in Europe and the United States, the Foundation is aiding medical schools to integrate the preventive aspects of medicine with clinical teaching. The University of Edinburgh is in process of developing experimental teaching units in family practice; at Washington University, St. Louis, responsibility for coordinating undergraduate teaching in the outpatient clinics of the hospital has been placed in the hands of the Department of Public Health and Preventive Medicine.

Under the continuing program in neurology and allied fields, aid was given to research in neurophysiology and psychiatry at the Burden Neurological Institute in Bristol, England, the McLean Hospital, Waverley, Massachusetts, Indiana University, Columbia University, and the University of Würzburg. Several of the 1952 grants fall under an even broader heading of human behavior. In the field of

child health three projects may be mentioned: one under the auspices of the Institute of Experimental Psychology in Florence, another sponsored by the Association for the Mental Health of Children in Paris, and a third at the University of Vienna.

Total appropriations for the Division of Medicine and Public Health during 1952 amounted to $3,599,698, distributed as follows:

Investigation and Control of Specific Diseases and Deficiencies	$313,960
Professional Education	925,700
Medical Care	181,750
Development of the Health Sciences	625,030
Fellowships	475,000
Grants in Aid	300,000
Field Service Expenses	728,258
Miscellaneous	50,000
	$3,599,698

Of this total amount, $275,000 was set aside for 1953 virus investigations carried out by Foundation staff members, and $728,258 was allocated for field service expenses in 1953. During 1952 the division maintained field representatives in Paris, London, Rome, Cairo, Toronto, Miami, Ciudad Trujillo, Delhi and Bangalore, Tokyo, Cochabamba and La Paz, Rio de Janeiro, Santiago, Lima, Bogotá, and Mexico, D.F.

PROFESSIONAL EDUCATION

UNIVERSITY OF EDINBURGH

General Medical Practice

In recent years some medical educators have been studying methods of providing the undergraduate medical student with an opportunity to consider the social as well as the clinical pathology of the patient: to regard the patient as an individual, as well as an assembly of well or diseased organs. One way of meeting these problems is through the establishment of family practices functioning in close association with the medical school. In addition to providing students with experience in the relationship between disease and social environment, such an arrangement also supplies the medical faculty with a controlled community laboratory in which to study methods of providing modern medical care outside the hospital walls.

At the Faculty of Medicine of the University of Edinburgh, the teaching of students in dispensary, or clinical, practice has been a feature for many generations. While this training had to be abandoned as a required part of the curriculum with the advent of the National Health Service Act (1948), the university set up an experimental teaching unit in family practice for a limited number of senior medical students at the Royal Dispensary. On the basis of the teaching experience in this dispensary, the univer-

sity has recommended that instruction in family practice be made available to all final year medical students as soon as facilities can be provided.

Dr. Richard Scott, who has been responsible for the superior quality of the experimental unit, has undertaken the task of enlarging the program. For this purpose the university plans to acquire a second clinical practice which cares for some 1,800 patients and is now under the auspices of the Edinburgh Medical Missionary Society. Dr. Scott's ultimate objectives are to extend this type of teaching to postgraduates already in general practice and also to give close study to the organization of group practice and the functions of the family physician. Toward the costs of this expanded program, The Rockefeller Foundation in 1952 appropriated $75,000 (£25,000), available for five years.

WASHINGTON UNIVERSITY

Preventive Medicine

While increasing specialization in medicine is responsible for great gains in the health care of the American people, specialization at the teaching level has some disadvantages. An allied problem of increasing concern to medical educators is the proper presentation of preventive medicine. For technical reasons the profession of preventive medicine has functioned largely as a part of public health and has utilized mass measures for the control of epidemic diseases in rather large social units. This approach is quite foreign to that of the physician trained to think of disease in terms of the individual patient. These

two problems — the presentation of the medical specialties so that the student will not lose sight of the patient as a whole, and the integration of preventive medicine with the rest of the medical curriculum — have been under active discussion in medical schools and national associations for some time.

At Washington University, St. Louis, an attempt to solve both problems is being made through the institution of a new system for assigning students to outpatient work. By mutual agreement among the various departments of the School of Medicine, responsibility for coordinating undergraduate teaching in the outpatient clinics has been given over to the Department of Public Health and Preventive Medicine. Because an outpatient department of a teaching hospital is the place where the student sees patients on much the same terms as he will encounter them later in practice, it offers an unusual opportunity for acquainting the medical student with the natural course of disease, its effects upon the patient and his family, and the measures taken to prevent, eliminate, or reduce the handicaps which the disease imposes. Under the experimental system, each student will spend a continuous period of three months under the guidance of the Department of Public Health and Preventive Medicine. During this time the student will act as the principal physician to a given patient or patients. He will do the original case history, physical examination, and whatever laboratory work is indicated. With his teacher he will decide what consultations in the specialty clinics are needed, make the appointments, and follow the

patient personally through all subsequent visits. On occasion, he will review the important social and environmental aspects of the case with a social worker.

In support of this experiment in teaching and medical care, The Rockefeller Foundation in 1952 appropriated $73,500 to Washington University for use over the next five years. Foundation support for the development of teaching in preventive medicine at Washington University began in 1944; previous appropriations amount to $54,000. The current Foundation grant will be used to meet the salaries of a physician and a social worker who are needed in fulfilling the new plan.

UNIVERSITY OF BRUSSELS

Social Medicine

Since the end of World War II, The Rockefeller Foundation has given continuous support to the establishment of teaching and research in social medicine at the University of Brussels. Under the leadership of Dr. René Sand, an internationally known authority in public health, the university's Institute of Social Medicine has made steady advances. It is one of the few places in Europe where training can be provided for physicians preparing for the diploma in public health and social medicine. It offers facilities for research and training in public health, social medicine, industrial hygiene, school hygiene, and forensic medicine. There is a close association between the institute and the Belgian Department of Social Affairs, as well as with the government School of Social Affairs.

In 1951, when Dr. Sand reached retirement age, Associate Professor Marcel Graffar succeeded to the chair of social medicine. Dr. Graffar, who is trained in pediatrics, also holds the posts of vice-president of the Belgian Association of Social Medicine and scientific advisor to the Social Service of the University Hospitals. He is a member of the Child Welfare Council, the organization which supervises most child health activities in Belgium. He received a fellowship from The Rockefeller Foundation in 1936–37, and in the last two years, partially with the aid of Foundation funds, has visited centers of social medicine in Great Britain and the United States.

With the aid of a 1952 Foundation grant of $25,000 (1,000,000 Belgian francs) to the University of Brussels, Dr. Graffar proposes to expand both field research and teaching in social medicine. Among the interests of Dr. Graffar and his colleagues is a long-term study on the social experience of children who suffer from emotional disturbances as a result of congenital disease or defects. One research team is presently engaged in a follow-up of the social reintegration of patients who have recovered from tuberculous meningitis after prolonged streptomycin therapy. The Foundation funds, available over a five-year period, will provide salaries for additional staff.

UNIVERSITY COLLEGE, UNIVERSITY OF LONDON

Medical Student Selection

Over the past five years members of the Department of Anatomy at University College, University of London, have conducted an investigation into the practices adopted by medical schools in selecting

entering students. They have also undertaken an experimental study of the methods available for training the preclinical student. Dr. J. Z. Young, who is in charge of these investigations, is interested in comparing the conclusions based on entrance examinations with the performance of medical students in their studies and in professional work.

For the training of preclinical students, Dr. Young and a colleague, Dr. Minnie L. Johnson, have devised a series of exercises intended specifically to develop powers of observation and reasoning. Dr. Johnson is supplementing ordinary methods of teaching with what she terms free, or analytic, group discussions. The discussions, recorded on a soundscriber, provide valuable information about the nature of the difficulties encountered by students in being objective or in translating their observations into statements which other observers can verify.

The Rockefeller Foundation has provided support toward the study of medical student selection at University College since 1948. At that time a grant of $20,250 was made to provide up to £5,000 over a five-year period. In 1952 the Foundation appropriated another $30,000 (£10,000) to be available until February 1958.

INSTITUTE OF PUBLIC HEALTH, TOKYO

Teaching Facilities

In 1952 The Rockefeller Foundation appropriated $25,000 to the Institute of Public Health in Tokyo, Japan, as aid in maintaining the high standards of its teaching facilities during the immediate post-

treaty period. A substantial portion of this sum is used to defray the costs of repairs and equipment for student laboratories and to pay for foreign purchases of books, journals, and motion pictures.

The Institute of Public Health is the chief center in Japan for public health educational activities. With the re-establishment of its prewar training activities in the past three years, it is now able to offer a full-year course for medical health officers and another one-year course for teachers of public health. Six-month courses are available to public health veterinarians, nutritionists, and pharmacists. At the suggestion of the Public Health and Welfare Section of the Supreme Commander for Allied Powers, beginning in 1947, it also instituted a series of short courses, two to four months each, for medical health officers, sanitarians, sanitary engineers, public health nurses, veterinarians, nutritionists, statisticians, health educators, and laboratory technicians. These short courses have benefited some 4,800 persons employed in the Japanese health services.

Foundation interest in the Tokyo institute dates back to the 1930's, when the Japanese government requested aid and advice in establishing a school of public health. In 1932 the Foundation appropriated $1,000,000 for construction and equipment of a building, and from 1933 to 1940 grants totaling $98,565 were provided for field training areas. Since the war grants amounting to $9,000 have been made for the purchase of foreign books and journals and for teaching aids. Last year a grant of $2,500 was allocated to the institute for a health and demo-

graphic study in Japan; additional funds for this study were provided through a 1952 grant in aid of $3,000.

NATIONAL INSTITUTE OF CARDIOLOGY, MEXICO

Laboratory Equipment

Since its founding in 1944, the National Institute of Cardiology in Mexico City has become one of the leading Latin American centers for research and postgraduate training in cardiovascular disease. Over and above its special interest in diseases of the heart, the institute has also assumed a prominent role in preparing teachers of clinical medicine and of certain of the basic sciences.

The director of the institute is Dr. Ignacio Chávez, professor of clinical medicine at the National University of Mexico. An intensive training program draws students from both South and North America and increasingly from Europe. Some five or six fellows come each year for basic training in physiology and pharmacology. The clinical services provide places for 15 interns and residents, as well as several full- or part-time fellows. An active though informal program of postgraduate education helps to keep physicians in and about Mexico City up to date on recent developments in medicine.

At the present time, the institute is building a new wing for its hospital to house the department of cardiac surgery and laboratories for clinical investigation. While the major part of the building fund has been collected from government grants and pri-

vate contributions, the balance set aside for equipment has been partly absorbed by rising building costs. To help the institute meet this deficit, The Rockefeller Foundation in 1952 appropriated $50,000 toward the purchase of research equipment over a two-year period. Through a previous grant, made in 1949, the Foundation is also providing support toward research and teaching in neurophysiology and pharmacology under Dr. Arturo Rosenblueth of the institute's staff.

KEIO UNIVERSITY MEDICAL SCHOOL

Cardiopulmonary Research Equipment

Keio University in Tokyo, Japan, this year received a grant of $15,000 from The Rockefeller Foundation to purchase equipment for a new cardiopulmonary research laboratory in the Medical School. The laboratory has quarters in a modern hospital building recently constructed by the university. Director of the laboratory is Dr. Hiroshi Sasamoto, assistant professor of medicine. Dr. Sasamoto spent the year 1950–51 on a Foundation fellowship in the United States to familiarize himself with American methods of diagnosis and research in cardiac and pulmonary diseases.

KAROLINSKA INSTITUTE

Chest Surgery Laboratory

As part of a ten-year building program, the Karolinska Institute in Stockholm, Sweden, has started construction on a new teaching and research hospital. The estimated building cost of $2,000,000 for a six-

story hospital has been supplied by the Swedish government. With the support of an additional fund of $200,000 (1,000,000 Swedish crowns) from The Rockefeller Foundation, a seventh floor to house an experimental surgery laboratory has been included in the hospital blueprints. The hospital is expected to provide 150 beds for medical pulmonary cases and 110 beds for thoracic surgery cases.

The experimental laboratory will be directed by Dr. Clarence Crafoord, head of the Karolinska Institute's Department of Experimental Surgery. Dr. Crafoord, a former Foundation fellow, is making outstanding contributions to the treatment of heart and lung malformations and diseases. The new laboratory will serve as a training center for European surgeons specializing in circulatory and respiratory physiology. Foundation funds are available until the end of 1954, when the hospital is scheduled for completion.

UNIVERSITY OF HEIDELBERG

School of Nursing

The School of Nursing at the University of Heidelberg is the first German nursing school to be established within the framework of an institution of higher learning. Its aim is to develop a leadership group of professional nurses who will in time become the teachers, supervisors, and administrators of the country's nursing schools and hospital and public health nursing services. The curriculum is designed to include the preventive, social, and rehabilitation

aspects of physical and mental health, as well as the curative aspects of medicine and nursing. Entrance requirements are established by the university.

Unlike the traditional German nursing school, the Heidelberg school functions independently of the religious "motherhouses" and is directed by a qualified nurse rather than a physician. The board of directors is composed of professors in the Faculty of Medicine and representatives of nursing and social welfare agencies, as well as a few lay members of the community. Through its teaching staff the school is closely linked with the Faculty of Medicine. In preparation for their new responsibilities, nurses who hold the important posts are now completing periods of fellowship study in other countries. Five such fellowships have been provided by The Rockefeller Foundation.

Since 1947, Foundation officers have also been invited to supply advisory services in connection with the administrative planning and the organization of the school. In 1952, the Foundation made a grant of $26,000 (80,000 German marks and $6,000) to aid the school in purchasing teaching equipment and textbooks and in providing travel study funds for members of the staff over the next three years. A substantial portion of the grant is needed to furnish the new School of Nursing building, now going up on the Heidelberg university grounds. This building, financed by the Württemberg-Baden State Administration of Education and the United States government, combines a teaching unit and residence for 75 student nurses and faculty members.

TEACHERS COLLEGE, COLUMBIA UNIVERSITY

Research on Nursing Education

Although there are more nurses working today than ever before in the nation's history, expanding medical and health services have led to an ever-widening gap between the public need for nursing and the kind, amount, and quality of care available. The national nursing groups, in cooperation with allied hospital and medical groups, are giving close attention to these problems and in the past three years have drawn up a blueprint of essential steps to be taken. Representatives of the various groups are fairly well agreed that a fundamental reorientation of the nursing education system is in order. They feel that in the future there should be a clearer differentiation of the various types of nursing services, with corresponding differentiation in training courses.

As a basis for the reorientation, the 1949 National Nursing Planning Conference recommended the establishment of regional research groups in universities. Implementing this recommendation, the Division of Nursing Education, Teachers College, Columbia University, in 1952 embarked on a five-year program of research and experimentation. The first regional center of its kind, the Teachers College group will give major attention to studying the improvement of nursing service, not only on the professional level, but also in the fields of practical and home nursing. The Rockefeller Foundation has appropriated $100,000 to the project for five years.

According to Professor R. Louise McManus, director of the Division of Nursing Education, the chief

function of the new center will be to conduct studies and experiments to determine the functions of nursing and the best use of nursing personnel. The form and content of courses will be redesigned if necessary, and new programs will be developed for special needs. The center also expects to supply consultant services to selected nursing schools and agencies and organize field studies to solve individual problems. Research findings will be disseminated through conferences and publications.

LE BON SECOURS SCHOOL OF NURSING, GENEVA

Nursing Education

In its task of developing a modern program in professional nursing, Le Bon Secours School of Nursing in Geneva has received advisory and financial assistance from The Rockefeller Foundation since 1948. Aid was renewed for another five years with a 1952 grant of $36,000. This sum provides for the development of graduate and undergraduate nursing education programs, for the purchase of teaching equipment, and for travel of staff members.

The outstanding group of nursing instructors assembled at Le Bon Secours are especially interested in developing an appreciation for better nursing standards among both lay and professional health personnel. In the past five years they not only have made steady progress in modernizing their own curriculum but also are exerting a considerable influence on the quality of instruction in other Swiss nursing schools. Le Bon Secours gives emphasis to the preparation of key personnel for positions of

leadership in hospital and public health nursing services. The school also serves increasingly as a training station for fellowship students and visitors sponsored by the World Health Organization and the League of Red Cross Societies.

Le Bon Secours has recently been constituted as the official school of nursing in the Canton. Although affiliated with the University of Geneva, the school is directed by a private organization with a board of directors selected from the Faculty of Medicine, the University of Geneva, the Department of Public Instruction, the Cantonal Hospital Board, the Institute of Hygiene, Le Bon Secours Association, and representative citizens. About one-third of the school's income is derived from the government, the rest from private sources.

ASSOCIATION FOR THE MENTAL HEALTH OF CHILDREN, PARIS

Teaching and Research Center

Two years ago, in December 1950, a private, nonprofit Association for the Mental Health of Children was formed in Paris by Dr. Jenny Roudinesco, a well-known specialist in child psychiatry. Dr. Roudinesco is on the staff of the Faculty of Medicine of the University of Paris and also holds the title of Médecin des Hôpitaux. Her aim in founding the association is to promote research on the improvement of child mental health and to create a center to train a selected number of persons in this branch of psychiatry. The association has already attracted considerable interest and support from French gov-

ernment offices and international agencies and societies. The Ministry of Public Welfare has provided adequate quarters for a center in the child guidance clinic of the Boulevard Ney Polyclinic. Situated near a large low-cost housing development in a working-class district of Paris, the polyclinic offers excellent opportunities for field studies and field training. Dr. Roudinesco will also have under her direction the Fondation Parent de Rosan, a boarding home for infants deprived temporarily or permanently of parental care.

In support of the development of child mental health teaching and research under the direction of Dr. Roudinesco at the Boulevard Ney Polyclinic, The Rockefeller Foundation in 1952 appropriated a five-year grant of $100,000 (33,500,000 French francs) to the Association for the Mental Health of Children. Foundation funds will be used to provide salaries for full-time psychiatrists, psychologists, social workers, and kindergarten teachers who have been prepared in psychology, and for several part-time trainee assistants in pediatrics and psychiatry. In the past five years, the Foundation has also given several grants in aid and fellowships to enable Dr. Roudinesco to visit medical centers in the United States and Canada and to facilitate the training of staff members for her research and training units. Dr. Roudinesco plans to offer instruction to trainees attached to the Boulevard Ney unit, to interns of the Paris hospitals, and to premedical and psychology students of the University of Paris. Research interests for the present are focused on the study of the influence of the

mother-child relationship on the child's development and personality structure.

UNIVERSITY OF VIENNA

Child Psychiatry Fellowships

Prior to the recent war, Vienna was one of the active world centers in the field of child psychiatry, not only from the research point of view but also because of social therapy services provided through municipal authorities. Professor Hans Hoff, who now holds the chair of neuropsychiatry at the University of Vienna, spent the war years teaching as an associate professor of neurology at Columbia University. He has under way an outstanding program in child mental hygiene, comprising sections for the treatment of epileptic children, juvenile delinquents, child neurotics, and schizophrenic patients. In collaboration with city officials, his staff provide instruction for child welfare officials and social workers.

While teaching facilities in neuropsychiatry have now been adequately built up, Professor Hoff lacks a budget to supply fellowships for young trainees. With the aid of a three-year Rockefeller Foundation grant of $17,200, in 1952, the University of Vienna has devised a plan to make six fellowships available each year to graduate students in child psychiatry, to be selected and trained by Professor Hoff at the university's Neuropsychiatric Clinic. Associated with Professor Hoff are Professor H. Rohracher and Professor Toman, in psychology; Dr. Schenk-Danzinger of the School Psychological Counseling Center; and Dr. K. Pateisky in neurology.

INSTITUTION OF CIVIL ENGINEERS, LONDON

Public Health Engineering

Although much of the pioneering work in the field of environmental sanitation, beginning with that of Sir Edwin Chadwick early in the century, has come from British investigators, public health engineering is still a relatively new specialty in Great Britain. It has undergone considerable development since the end of World War II, and by now it is widely recognized that the development of facilities for training and research in this field in the United Kingdom could be helpful in promoting environmental sanitation both there and in other regions under British influence.

Another step toward establishing public health engineering as a recognized specialty was taken this year by the Institution of Civil Engineers, which is the accrediting body for professional civil engineers in the United Kingdom. This institution feels that there is continuing need for technical leadership in the public health engineering field; research investigations looking toward new and more economical solutions to environmental sanitation problems are of special importance. Both of these needs can be met in a basic way through the development of training facilities at the postgraduate level.

In 1952 the Institution of Civil Engineers requested a grant of $36,000 (£12,000) from The Rockefeller Foundation to finance bursaries, or graduate fellowships, for training and research in public health engineering in universities in the United Kingdom. Among the institutions which offer graduate work

in public health engineering are the Imperial College of Science and Technology and University College in London, the University of Manchester, and the University of Durham. In offering these awards over a three-year period the institute hopes to build up a corps of leaders in the public health engineering field who can raise standards of postgraduate education as well as promote research and investigation.

In addition to the grant of $36,000, The Rockefeller Foundation gives current support to the cooperative project (started in 1949) between the London School of Hygiene and Tropical Medicine and the Imperial College of Science and Technology for the development of graduate training in public health engineering. Several travel grants and fellowships have also been supplied for faculty members of these schools and of the University of Durham to enable them to visit the United States for advanced study and investigation of American practice in the field of environmental sanitation.

HARVARD UNIVERSITY

Legal Medicine

The introduction of legal medicine into the professional training of physicians is a relatively recent development in the Western Hemisphere. The first institution in the United States to take steps toward the establishment of a full university department of legal medicine was the Harvard Medical School in 1937. At that time a full-time chair of legal medicine was established, and within three years a Department

of Legal Medicine was in operation. Dr. Alan R. Moritz, who became chairman of the new department, spent two years on a special fellowship provided by The Rockefeller Foundation to enable him to visit European centers for the teaching of legal medicine. Since then, the Foundation has appropriated a total of $107,000 for the use of the department. In 1952 a further grant of $100,000 was made to enable the department to carry out an experimental program over the next four years.

The Department of Legal Medicine has always been closely associated with the Boston Medical Examiner's office. This office for many years has led the national movement to revise the coroner system of providing medical evidence in crimes of violence. The present acting chairman of the Department of Legal Medicine, Dr. Richard Ford, also serves as the medical examiner of Suffolk County, which includes a large part of the city of Boston.

During the past 15 years, the Department of Legal Medicine at Harvard has given its principal efforts to refining methods of obtaining post-mortem evidence and to the training of medical examiners. Members of the fine staff of pathologists and other experts are frequently called upon to lecture or supply consultant service to other states interested in setting up medical examiner systems, and graduates of the Harvard group are in demand to organize these systems. The department offers short courses on the legal responsibilities of physicians in all three of the Boston medical schools. Seminars in the collection

and evaluation of medical evidence are available to Harvard law students and to specially assigned groups of police from the state and city forces.

The Harvard Medical School now plans to experiment in expanding the concept of legal medicine beyond the present emphasis on forensic pathology. Important though it is to provide accurate and impartial evidence by careful post-mortem examination in crimes of violence, it is increasingly clear that medicine and the law are intimately involved in many other matters. For example, it has long been recognized that a large number of persons who commit crimes or become involved in civil suits do so because they suffer personal difficulties which medical men view as illnesses. Present procedures for introducing and evaluating evidence bearing on this question are admittedly inadequate. Part of the trouble stems from the inaccuracy of present knowledge about mental illness. No doubt a salient factor, however, is the lack of understanding between the law and medicine as to what constitutes evidence and the ways in which it should be handled in reaching a judgment. Similar difficulties are encountered in trials involving compensation for physical injury — an increasingly important problem in these days of almost universal insurance.

The Harvard Department of Legal Medicine proposes to work toward the solution of such problems by adding to the staff on a part-time basis the newly appointed Commonwealth Commissioner of Mental Health, Dr. Jack Ewalt, and Dr. Robert H. Hamlin, who will shortly have the distinction of possessing

degrees in medicine, law, and public health. The Harvard Law School is eager to cooperate in the work, as is also the dean of the Medical School, Dr. George Berry.

MEDICAL CARE

UNIVERSITY OF NORTH CAROLINA

Division of Health Affairs

The North Carolina State Assembly has assigned the task of drafting a state-wide health and medical care program to the University of North Carolina, Chapel Hill. With this in mind, in 1947 the Assembly extended the course at the medical school from two to four years and created schools of dentistry and nursing and a university hospital. Research and planning for the program is assigned to the Division of Health Affairs, which is the administrative coordinating body for the Schools of Medicine, Dentistry, Pharmacy, Public Health, Nursing, and the University Hospital. A special technical team is spearheading this planning for a coordinated utilization of the scientific, economic, and sociological resources of the state and the university toward a sound and effective health program.

The technical team is thinking in terms of extension service from the university health center to the state at large. This includes the growth of coordinated services and educational programs among the six main units of the university health center itself, as well as between the center and other component

parts of the university and other institutions throughout the state.

Because of the wide range of research opportunities in this program, the technical team is highly conscious of the need for taking as broad and deep a view as possible of the problem of health care. As one specific measure, they called together last fall a small group of research experts from the biological and social sciences to discuss the subject of needed research in health care. The general theme of this seminar was that while research in the biophysical and biochemical sciences is of the highest importance in the attack on health problems, it is recognized that many phenomena of health and disease are dependent on social factors. It was generally agreed that much more emphasis needs to be placed on research on the biosocial approach to health problems. In addition to its value in pointing out fruitful areas of research and demonstration in the field of medical care, the seminar proved helpful to the group at Chapel Hill in preparing the design for a field survey of health status, attitudes, and practices among the people of North Carolina.

A grant of $56,250 has been given by The Rockefeller Foundation to the University of North Carolina for aid in the research and planning of the state-wide program. An additional sum of $8,000 was provided toward the expenses of the seminar on needed research in health care. The Foundation is also contributing to a pilot study in North Carolina conducted by the American Hospital Association's Commission on Financing of Hospital Care.

AMERICAN PUBLIC HEALTH ASSOCIATION

Subcommittee on Medical Care

The American Public Health Association occupies a key position among the various groups concerned with the development of sound methods for the distribution of medical care in the United States. Through its Subcommittee on Medical Care, established in 1946, it has acted as a national catalyzing agency in bringing these groups together to define a mutually satisfactory policy and to provide the best information possible. Together with the American Medical Association, the American Dental Association, the American Hospital Association, the American Nursing Association, and the American Public Welfare Association, the subcommittee has been responsible for the establishment of the Inter-Association Committee on Health. The Inter-Association Committee has been active in formulating statements of common policy in several areas of medical care.

In the past two years, at the request of the American Public Welfare Association, the Subcommittee on Medical Care has given increasing attention to the problems of administering medical care for welfare cases. The 1950 amendments to the Social Security Act now permit federal aid to be used for the first time by individual states in purchasing medical care for recipients of public assistance. The fact that most states do not have a legislative base for making full use of the extended legislation has created heavy demands on health and welfare administrators. On the basis of a conjoint statement of the Inter-Association Committee on Health, the

subcommittee and the American Public Welfare Association have released a joint report on tax-supported medical care for the needy. This report carries forward the declared cooperative intent of the Inter-Association Committee that "any provision to finance medical care for assistance recipients should permit the administration of the medical aspects of such care by public health departments." The subcommittee has also prepared a plan for intensive studies of the Baltimore city program for the medical care of the needy and the provincial hospitalization program in Saskatchewan.

As a contribution toward the basic budget of the Subcommittee on Medical Care and toward its collaborative work with the American Public Welfare Association, The Rockefeller Foundation in 1952 appropriated $115,000 to the American Public Health Association for use through 1956. The amount set aside for costs of consultative services rendered to the American Public Welfare Association is $30,000.

INVESTIGATION AND CONTROL OF SPECIFIC DISEASES AND DEFICIENCIES

LABORATORIES OF THE DIVISION OF MEDICINE AND PUBLIC HEALTH

A widespread investigation of insect-borne virus diseases is under way in the New York laboratories of the Division of Medicine and Public Health and at field stations in Egypt and India. Staff virologists

are especially concerned with a group of unknown agents discovered between 1937 and 1948 as a by-product of Foundation studies of jungle yellow fever in Africa and South America. Intensive studies in the New York laboratories have already shown close relationships between some of the newly discovered viruses and well-known viruses, such as yellow fever and members of the encephalitis group, which attack both man and animals. Five of the new viruses appear to be causative agents of hitherto unknown diseases. The reason for extending the investigations geographically is that in several cases the same virus has been reported in both hemispheres, or at least in widely separated zoogeographical regions. This year's investigation, for example, established the presence of the West Nile virus in both Egypt and India; the West Nile virus had been isolated by Foundation staff in Uganda, East Africa, in 1937.

The Foundation appropriation of $350,000 for virus investigations during 1952 provided for setting up the field stations in Egypt and India and for operation of the New York laboratories. At the end of the year a grant of $275,000 was made for the continuing expenses of these laboratories and for establishing a field unit in Port of Spain, Trinidad. The New York laboratories act as the coordinating body for the investigations. They possess a large reference collection of neurotropic viruses and are equipped to carry out complex tests on the immunological, physical, and chemical properties of virus material. The field stations are concerned with the

epidemiology of the viruses and with surveys of their incidence and distribution in both the human and animal populations.

The field studies in Egypt are supervised by a Foundation staff member, who was assigned by agreement with the Egyptian government to the United States Naval Medical Research Unit No. 3, in Cairo. In India two staff members cooperated this year with the Indian Council of Medical Research in setting up a Virus Research Center. The new station scheduled to open in Port of Spain, Trinidad, will serve as a base for surveying virus diseases in the Amazon Valley of Brazil, the Guianas, the Orinoco Valley of Venezuela, and some of the Caribbean islands. The government of Trinidad has provided a building and other facilities for this station.

Virus Relationships

The study of the relationships of the viruses to each other and to known agents of disease is a long-time project. The bulk of this work is done in the New York laboratories, where technical facilities allow the problem to be approached in a number of different ways.

In higher animals and plants, classification is aided enormously by the visible forms of the organisms, which also indicate the probable evolution of the various species. In viruses, knowledge of forms is almost completely absent. However, these agents do vary in size, and in the last year or two, staff virologists have improved an ultrafiltration method for determining the approximate size of virus particles.

(This method, which depends on passing the viruses through collodion membranes which have pores of uniform size, has been discussed in former Annual Reports of The Rockefeller Foundation.)

A study of particle size of the newly discovered viruses has now been concluded. The results reveal a considerable variation in particle size, ranging all the way from 10 to 122 millimicrons in diameter. The smallest is the Mengo virus (10 to 15 millimicrons). The remainder may be roughly divided into two groups. In the group of relatively large viruses (70–122 millimicrons) are Anopheles A, Anopheles B, and Wyeomyia from South America, and Ntaya, Bwamba, and Bunyamwera from Africa. To the group of relatively small viruses (15 to 30 millimicrons) belong West Nile, Semliki, Kumba, Zika, and Uganda S from Africa, and Ilhéus from South America. It is of interest that many of the well-known arthropod-borne viruses, including yellow fever, dengue, and the encephalitis group, also fall into this group of "relatively small" viruses.

Of the methods available for classifying viruses, the immunological ones appear to have the most promise. These methods rely on the fact that animals which have been infected with a virus (or other pathogenic agent) develop antibodies which circulate in the blood; these antibodies react specifically with the agent which caused the infection. In the present studies, two types of laboratory tests that show up this reaction have been helpful in establishing relationships among the viruses. These are the neutralization, or protection, test and the complement fixa-

tion test. By the first method, briefly, a monkey is immunized with a given virus; after the monkey has developed protective antibodies to the virus, a sample of the monkey's blood, together with another virus, is injected into mice; if the mice live, it means that one virus must have stimulated the production of both its specific antibodies and antibodies for the other virus; therefore, the two viruses must have some antigens in common. By this means, as was pointed out in the 1951 report, the laboratory staff have found a large group of viruses all immunologically related. The group comprises well-known viruses, such as yellow fever, dengue, Russian spring-summer encephalitis, Japanese B encephalitis, and St. Louis encephalitis, and several of the newly discovered viruses, including the African Zika, Ntaya, West Nile, and Uganda S viruses and the South American Ilhéus (and possibly Anopheles A).

Going back again to the particle sizes of the viruses, it may be observed that with two exceptions all of the viruses in this large group of immunologically related viruses belong in the "relatively small" particle size category. Ntaya and Anopheles A, the two exceptions, are large viruses, according to the ultrafiltration method, but the neutralization test shows that they are related to small viruses. These anomalous findings are under investigation. As the ultrafiltration method is a very complex procedure and as two very closely related viruses may reveal marked physicochemical differences, Ntaya and some of the other large viruses may actually be smaller than indicated.

As a result of the past extensive work with yellow fever, the New York laboratories had on hand numerous sera from monkeys immune to yellow fever. These sera were tested for their protective action against the other viruses now being studied. In addition, sera from monkeys immunized with some of the other viruses were tested for their protective action against yellow fever virus.

The results show that yellow fever virus is related to Uganda S, dengue, Zika, West Nile, St. Louis, Japanese B, and Ntaya. In a similar manner it has been shown that the Hawaiian strain of dengue virus is related to yellow fever, Zika, St. Louis, West Nile, and Ilhéus, and possibly to louping ill. While most of the immunological overlaps are slight, in two instances at least they are considerable. A dengue immune serum, as a rule, gives clear-cut protection against St. Louis virus. Yellow fever immune sera often give complete protection against Uganda S; the converse also proved true, that is, sera from monkeys immune to Uganda S virus had some protective action against yellow fever virus.

These findings definitely relate diseases like yellow fever, which causes death by damage to the liver, to viruses which produce encephalitis and cause death by infection of the brain. Through attempts to classify these virus agents by the signs and symptoms of infection which they produce, the term arthropod-borne virus encephalitides has come into common usage. With the progress of the present immunological investigations, it becomes increasingly clear that this type of classification is inadequate. This opinion

is reinforced by the fact that the virus of yellow fever can be readily converted from one that produces death in monkeys by damage to the liver to one that is fatal because of infection to the brain.

The complement fixation test, the second type of test used to study the relationships between the viruses, is carried out in test tubes, the reaction between virus and complement-fixing antibody being shown by the disintegration of red blood cells. Results have in general confirmed those obtained by the neutralization test. As recent improvements in the technique of the complement fixation test have made it a more delicate test, further explorations of the virus relationships have been undertaken, with the result that several marked relationships have been revealed. One is that West Nile, Ntaya, and two different strains of dengue virus are related. Of particular significance, however, is the newly shown relationship between Russian spring-summer encephalitis virus and Ntaya virus. This definitely establishes a relationship between a tick-borne virus, causing encephalitis in man in Siberia, and a virus isolated from, and presumably transmitted in nature by, East African mosquitoes. It was already known that the Russian virus was related to another tick-borne virus — louping ill, a disease of sheep in Scotland. Louping ill is likewise related to the Ntaya virus.

Biochemical Studies

One of the stumbling blocks since the start of these virus investigations has been the problem of

isolating the virus particles from the surrounding tissue components. Obtaining a high enough concentration of the virus is also a problem because the concentration of virus in infected tissue is relatively low. Ultracentrifugation has been only partially satisfactory because tissue components are sedimented along with the virus. In an electron microscopic picture of the sediment, for example, it is difficult to distinguish virus particles from tissue particles of the same size.

In initiating biochemical studies of the new viruses, laboratory staff again faced the technical difficulty of obtaining fairly large quantities of the infecting agents in anything approaching pure form. Last year new methods of purifying and concentrating virus particles by means of ion-exchange resins were investigated. Preliminary results suggest that the techniques will yield considerably purer preparations than those obtained by earlier methods.

Ion-exchange resins are virtually insoluble organic materials (obtainable as fine powders) which possess the property of combining with other substances in a reversible fashion. They have had, perhaps, their most extensive use in the softening and purification of water. The method first tried employed two different resins, one of which removed a considerable amount of the tissue material without affecting the virus. The second adsorbed the virus while permitting additional tissue material to pass through and be removed. The virus could then be eluted from the second resin with a very small volume of an appro-

priate eluting solution. With this technique a tenfold concentration of virus could be achieved while 98–99 per cent of the tissue nitrogen was removed.

Since different viruses or even different strains of the same virus vary in their behavior on a resin column, this method of virus concentration and purification also offers possibilities for virus characterization. It was observed, moreover, that even though two viruses may adsorb under the same conditions, they may elute from the column in divergent patterns.

Virus Behavior in the Mosquito

As many of the viruses under investigation are known or are presumed to be transmitted in nature by mosquitoes, studies have been made on the behavior of virus infections in these insects. The mosquitoes selected for the studies were *Aedes aegypti* and *Anopheles quadrimaculatus*, both of which are readily colonized in the laboratory. The two viruses selected were the Asibi strain of yellow fever and the Egyptian strain of West Nile virus, neither of which had undergone modification by mouse-brain passage. The Asibi strain of yellow fever, moreover, is readily transmitted by *Aedes aegypti* and thus served as a model for the development of virus in a known vector.

Preliminary studies have been devoted to observations on virus multiplication. It is apparent that after the mosquito has been allowed to feed on the virus, the virus first becomes established in the stomach. It multiplies in the mosquito stomach and then becomes disseminated throughout the insect. With the spread of the virus there is progressive increase of virus con-

centration in the salivary glands, but not elsewhere, until the salivary gland virus may be in excess of that in the stomach. When *Aedes aegypti* was infected with the West Nile virus, the concentration of virus in the salivary glands soon averaged one hundred times that in the stomach. When the anopheline mosquito was infected with this same virus, however, the average stomach content was in excess of the gland content. Whether the concentration of virus in the salivary glands is due to local multiplication or merely to accumulation of virus has not yet been determined.

Virus Epidemiology

The New York laboratories are currently putting the neutralization test to another valuable use in tracing the geographical distribution of the viruses. Immunity following infection with a virus is often of long duration and sometimes, as in yellow fever, lasts for life. By testing representative samples of blood from the residents in a community, it is possible to obtain positive evidence that a virus has attacked man in a given area at some time in the past. The complement fixation test serves a slightly different purpose. Since it shows up complement-fixing (rather than protective) antibodies, which usually disappear several months after infection, it is of use in a survey to detect the seasonal or annual incidence of a virus infection.

A search is being made for less cumbersome in vitro tests to show up viral antibodies. In the meantime, an extensive series of tests has been done with blood

samples sent in from the field stations in Cairo, Egypt, and Poona, India.

India: Virus Research Center

The Virus Research Center in Poona, India, was formally created on April 1, 1952, as a collaborative project of the Indian Council of Medical Research and The Rockefeller Foundation. The building was provided by the government of Bombay. At the present time, two of the Foundation's staff virologists are with the center. In addition to its own work with the insect-borne viruses, the center hopes to aid and stimulate virus studies of all sorts by other workers. Contacts have been established with the virus laboratory of the Armed Forces Medical College at Poona, the Christian Medical College in Vellore, the Poliomyelitis Research Unit of the Indian Council of Medical Research in Bombay, the Seth G. S. Medical College in Bombay, the Haffkine Institute in Bombay, the Central Research Institute in Kasauli, the King Institute in Madras, the Central Drug Institute in Lucknow, the All-India Institute of Hygiene in Calcutta, and the Pasteur Institute at Coonoor, Madras.

The major scientific effort during the year was a reconnaissance of virus immunity, involving the collection of 576 blood samples from residents of six states in the southern part of India. The results of over 2,000 neutralization tests on these samples supply evidence of the presence of six different neurotropic viruses within a radius of 500 miles around Poona. They are: West Nile, Zika, Ntaya, Uganda S,

Japanese B encephalitis, and Russian spring-summer encephalitis. The first four are among those isolated in Uganda, East Africa, by Foundation yellow fever workers. The last two had not previously been reported from India; the evidence of the neutralization tests may indicate the presence of immunologically related, rather than identical, viruses.

As climatic factors and topography are of considerable importance in the epidemiology of insect-borne diseases, Foundation staff welcomed the opportunity to spend some time in traveling and getting acquainted with the various regions of India last year. In most of India, rainfall is the predominant variant, contrasting sharply with most of North America, where temperature is the predominant variant. In India, one cannot know the several distinct parts of the country without seeing them during the monsoon as well as during the dry season.

Another important reason for the reconnaissance trips was to select a suitable place to study the insects, birds, and mammals of the tropical forest, in the search for animal foci of virus diseases. It will be recalled that one type of yellow fever appears to be maintained in jungle areas by mosquitoes and monkeys. As many of the viruses under study are related to yellow fever virus, it is possible that similar epidemiological patterns prevail.

Egypt: Field Studies

The Egyptian field station, which operates in conjunction with the United States Naval Medical Research Unit No. 3, is now making a general survey of

the viral and rickettsial diseases present in the Nile Valley. Initial sampling already reveals that infections with West Nile virus and the rickettsial disease, Q fever, are both prevalent and widespread in Egypt. Ntaya virus infection is also quite common. In addition to the tests on human sera, attempts are being made to isolate disease agents from the local mosquitoes, ticks, flies, mites, lice, and fleas, and also from some of the domestic animals. The arthropod collections have thus far yielded 14 virus strains. Of these, seven are probably West Nile virus, and others may belong to the Coxsackie virus group.

Special attention has been given to testing blood samples from individuals suffering from undiagnosed fevers. Some 18 virus strains have been found by this means; nine of these are tentatively identified as West Nile. West Nile infection in children under five is common during the summer months.

Although it would appear from serological studies in seven villages that a high percentage of the people, especially young children, suffer from Q fever and that the rate of infection with the causative agent, *Coxiella burnetii*, is high among sheep and goats, the organism has been isolated only a few times. The field station staff were, in fact, the first to identify the agent of this disease in Egypt. They were able to isolate the organism from two of the common local ticks recovered from a camel and a Sudanese bull at the Cairo Municipal Abattoir. More recently they have recovered *burnetii* from sheep's milk. It seems possible that human infection may take place through soiling by excreta or by inhalation of infected dust.

At least, there is some correlation between the incidence of Q fever and primitive living conditions.

PASTEUR INSTITUTE, PARIS

Virus Research Equipment

The Pasteur Institute in Paris has started construction on a new building to house all of the laboratories of the Virus Research Division and the Yellow Fever Division. The Virus Research Division has expanded considerably since the war, with its laboratories spread over three different floors and its animal quarters in four separate buildings. A generous private gift of 100 million francs makes the new building possible. The unfortunate rise in building costs, however, has made it necessary for the division to seek additional funds from the institute, the Centre National de la Recherche Scientifique, and private sources. The Rockefeller Foundation in 1952 appropriated $20,000 toward the purchase of equipment obtainable only from United States and Swiss firms.

The leading research center in its field in France, the Virus Research Division serves not only as a research unit but also as a center for advanced training on an international basis. It is under the direction of Dr. Pierre Lépine, who is well known for his contributions on influenza, Coxsackie virus, poliomyelitis, and the various types of encephalitides.

TENNESSEE DEPARTMENT OF PUBLIC HEALTH

Williamson County Tuberculosis Study

The Tennessee Department of Public Health has for 21 years sponsored an epidemiological and clinical

study of tuberculosis in Williamson County. The study has received support from The Rockefeller Foundation since 1931. In 1952 a grant of $18,960 was appropriated for support in 1953.

At this stage of the study, histories on several generations of tuberculosis cases and tuberculous households are available to aid in the planning of control programs. A recent paper reports observations on 1,358 household associates of 298 "sputum-positive" or fatal index cases of tuberculosis. Manifest tuberculosis is found more frequently among household associates of sputum-positive cases than among associates of cases in which no tubercle bacilli have been demonstrated in the sputum. The tuberculosis attack rates for Negro associates were higher than for white associates. The highest attack rates were noted in white females 15 to 34 years of age and in Negro females at a slightly earlier period, 10 to 24 years of age. The evidence indicates that age, sex, race, and the relationship by blood affect the development of tuberculosis in individuals with household exposure to open cases. The analysis of the relationship of other factors, including the economic, on attack rates in households is now being undertaken.

The discovery in relatively recent years that a fungus disease, histoplasmosis, is responsible for many of the pulmonary calcifications in Williamson County has created new problems. A re-evaluation of previously diagnosed tuberculosis is indicated, and intensive laboratory studies should be made on new cases of pulmonary disease. During the past two years the study group has discovered the causative agent of histoplasmosis, *Histoplasma capsulatum*, in soil

Photograph Excised Here

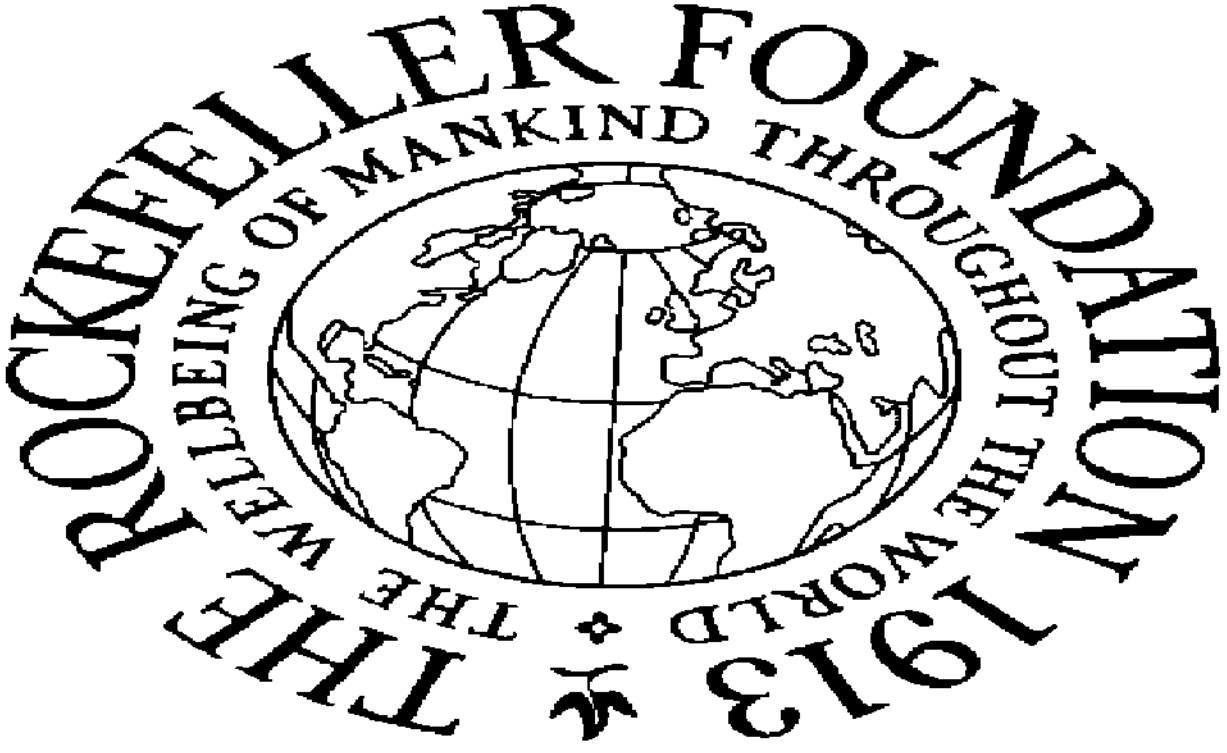
The 22-channel Toposcopic Display Console developed for electrical charting of the brain at the Burden Neurological Institute, Bristol, England

Electrophoresis laboratory in the Biochemical Institute of the University of Uppsala, Sweden

Photograph Excised Here

Photograph Excised Here

The Institute of Genetics, University of Lund, Sweden. *Left:* a plant breeding experiment. *Below:* research laboratories and greenhouses of the institute



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samples on 11 different occasions. Most of the specimens came from chicken houses or chicken yards.

DEVELOPMENT OF THE HEALTH SCIENCES

INSTITUTE OF EXPERIMENTAL PSYCHOLOGY, FLORENCE

School-Child Health

A multidiscipline study on the influence of an educational system upon child health, development, and social behavior has been set up in Florence, Italy, under the direction of Dr. H. Boutourline Young, research associate in physiology at the Harvard School of Public Health. For the study of the psychological aspects, arrangements have been made for the cooperation of Professor Alberto Marzi, a leader in the field of experimental psychology in Italy. Professor Marzi is director of both the Institute of Psychology of the University of Bari and the Institute of Experimental Psychology of the commune of Florence. To facilitate Professor Marzi's participation in the study, The Rockefeller Foundation in 1952 appropriated $16,740 (9,300,000 lire) to the Institute of Experimental Psychology, available for three years.

Professor Marzi, who spent some time on a Foundation travel grant studying with I. S. Wechsler at Bellevue Hospital in New York, has recently completed an Italian version of the Wechsler Intelligence Scale for Children (WISC). Tests for attention, learning capacity, and memory are scheduled in this phase of the study. Of the 400 Florentine children enrolled in the study, 200 serve as controls, and 200 are to be tested in more progressive educational methods, on

the assumption that the present system in Italy does produce some psychological trauma.

Professor Marzi will attempt to determine: 1) the daily stress and its effects on individual achievement; 2) the most efficient method of avoiding fatigue by redistribution of study hours and variation of rest periods; 3) the effect of long-term fatigue on personality, e.g., poor performance, antisocial behavior, nervousness, depression; 4) the importance of a general plan for lightening the school curriculum in order to lessen fatigue and improve learning capacity.

The Harvard-Florence project has the full approval of the Italian Ministry of Education, which hopes that the results will assist in effecting long-projected school reforms. The mayor of Florence has kindly offered to administer the grant for the Institute of Experimental Psychology.

TAVISTOCK INSTITUTE OF HUMAN RELATIONS, LONDON

Group Behavior

The Rockefeller Foundation has renewed aid to the Tavistock Institute of Human Relations in London through a 1952 grant of $105,000 (£35,000), available over the next five years. This institute, under the direction of Dr. A. T. M. Wilson, is engaged in an unusual program of experimental studies on group and community behavior. Its practice is based on the assumption that clinical experience with individuals and the theoretical concepts derived from psychoanalysis can be applied to the study and treatment of problems arising in group behavior. The institute maintains close ties with the Research

Center for Group Dynamics at the University of Michigan; out of this has grown considerable exchange of personnel and the publication of a quarterly journal, *Human Relations*.

Professional support for the institute has steadily increased, and some elements of British industry have shown marked interest. The National Coal Board supports a long-term study of the influence of new mining techniques on the social organization within the mines and the resulting effects on production. Similar aid is supplied by Glacier Industries for an analysis of the social interactions in a modern factory.

The Tavistock Institute plans to continue its industrial studies but wishes to balance this activity with more fundamental work, which must depend for the present at least on support from philanthropic foundations. The new grant from The Rockefeller Foundation, for example, is used primarily toward salaries of personnel and support of trainees in the family studies project. This project comprises an investigation of the family as a social unit, with special emphasis on mother-child relationships during the first year of life.

PRINCETON UNIVERSITY

Psychology of Perception

Rockefeller Foundation aid to the program on the psychology of perception at Princeton University was renewed for another year through a grant of $25,000. This grant supports work of the Princeton Department of Psychology in collaborating with Adelbert

Ames, Jr., emeritus professor of physics at Dartmouth College and head of the Institute for Associated Research, Hanover, New Hampshire. Professor Ames for some 20 years has been engaged in basic studies on visual perception and is at present collaborating with a group of younger psychologists at Princeton headed by Professor Hadley Cantril.

The current research emphasis is upon factors involved in the perception of movement. The unusual ability of Professor Ames to devise experimental tests of the extent to which past experience enters into perceptions of the objective world has contributed to understanding the validity that can be attached to observations and inferences of many sorts.

HARVARD UNIVERSITY

Personality Development

Dr. Henry A. Murray, Jr., of the Harvard University Psychological Clinic, for many years has been conducting an investigation of the variables that enter into the make-up of human personality. He has a special interest in the origin of normal or effective behavior which makes for contentment and creative living. Dr. Murray, an M.D., spent four years in research on physiology and biochemistry at the Rockefeller Institute for Medical Research before coming to his chosen field of personality psychology in 1926. His attempts to give some sort of analyzable form to the variables of human personality have ranged from the invention of a widely used picture test for getting at unconscious motivations to a long

literary essay on the psychological elements in Melville's novel, *Pierre*. He has written numerous articles for scholarly journals and is responsible for three books: *Explorations in Personality*, *Personality and Culture* (with Clyde Kluckhohn), and *Assessment of Men* (several authors under the editorship of Dr. Murray).

Within the next few years Dr. Murray hopes to complete active research and analysis on two projects. One involves a classification of the various types of human behavior. The second involves the evaluation of five new psychological tests which utilize ambiguous situations in order to bring out the subjective elements in the process of perception. These subjective elements in turn provide a way of getting at the past experience and personality structure of the perceiving individual, especially those features which currently lie below the level of conscious awareness. Although Dr. Murray's Thematic Apperception Test is now widely used, he himself has never been satisfied with it. Five other approaches to the problem are now under study, the most intriguing of which employs ambiguous auditory stimuli rather than the more conventional visual sort. The evaluation of these tests is being done in collaboration with Dr. Gardner Lindzey.

As assistance toward the completion of these projects, The Rockefeller Foundation in 1952 made a grant of $30,000 to Harvard University, available for two years. This grant rounds out 20 years of Foundation support for the Harvard Psychological

Clinic; total aid to September 1954 will amount to $137,450.

ROSCOE B. JACKSON MEMORIAL LABORATORY

Genetics and Behavior

In 1952 The Rockefeller Foundation provided continuing support to the Roscoe B. Jackson Memorial Laboratory at Bar Harbor, Maine, for its studies of the genetic aspects of behavior in mammals. The new grant, in the amount of $50,000, represents forward financing for the year ending February 1955.

The behavior studies at the Roscoe B. Jackson Memorial Laboratory are now in their seventh year. In the period since 1945 an outstanding research team composed of Mr. C. C. Little, geneticist and director of the laboratory, Mr. John P. Scott, animal psychologist, and Mr. John L. Fuller, experimental physiologist, have launched a long-term investigation on dogs. Dogs were selected as the subjects of study because within the single species these animals exhibit a wide variety of behavioral traits; moreover, striking similarities have been observed between canine and human behavior. During the initial phase of the program the investigators have been engaged in testing the emotional and behavioral characteristics of five pure strains — Basenjis, Beagles, Cocker Spaniels, Wire-Haired Fox Terriers, and Shetland Sheep Dogs. For this purpose they have developed a set of procedures for testing physical performance, social behavior, and physical and emotional stress. Between strains, there are significant differences in body temperature, heart rate, and other physiological in-

dices. Differences have also been found in such social matters as timidity, aggressiveness, avoidance, and dominance. The next phase of the work is to obtain more refined information about the genetic characteristics of the strain differences. A program of cross-breeding in the dog populations was begun last year.

In order to strengthen the experimental aspects of the program, which from now on will occupy an increasingly important place, the Memorial Laboratory has appointed a special advisory committee. The members of this group are Leonard Carmichael, Frank Beach, T. C. Schneirla, Howard S. Liddell, and Donald Hebb. It will be the task of this group to help widen the range and refine the techniques of the experimental observations.

BURDEN NEUROLOGICAL INSTITUTE, BRISTOL, ENGLAND

Neurophysiology

The Burden Neurological Institute, Bristol, England, was established in 1939 as a research center to serve the western area of England. The laboratory buildings, which include modest facilities for care of patients under investigation, occupy grounds immediately adjoining Stoke Park, an institution devoted to care of the mentally deficient. The institute derives its support from a private trust fund and from government grants for special research projects; it is independent of the government health scheme.

A noteworthy feature of the institute is the electroencephalographic laboratory under the direction of Mr. W. Grey Walter. Closely associated with the

early development of electroencephalography in England, Mr. Grey Walter was one of the first to use this method for the localization of brain tumors. In recent years, Mr. Grey Walter's interest has turned toward an analysis of relationships between electrical activity of the brain and mental functions. He has developed an elaborate instrument named the toposcope for displaying simultaneously the electrical activity of 20 or more different brain areas. Arrangements for synchronizing the scanning frequency of the machine enable the operator to emphasize one or another of the spontaneous frequencies generated in a particular area and compare its appearance with events in other areas.

It has been known for some time that incoming sensory impulses produce characteristic electrical patterns in specific sensory areas of the brain, but the constantly varying activity of the brain as a whole has made it difficult to trace the effects of sensory stimulation into other regions in which impulses are presumably put together to form perceptions, conditioned reflexes, memories, or thoughts. Mr. Grey Walter reports that the ability of his method to separate electrical patterns of particular interest from the background activity is such that he can now trace certain elements of the primary sensory patterns into several of the so-called association areas of the cerebral cortex. In the next few years he hopes to correlate these with the conscious sensations of the subject and with elementary mental activities such as conditioning and emotional awareness.

Toward this important research on neurophysiology, The Rockefeller Foundation in 1952 appropri-

ated $27,000 (£9,000) for a four-year period. This grant renews support given through a five-year grant of $50,625 made in 1947.

MCLEAN HOSPITAL, MASSACHUSETTS

Brain Chemistry

Although in the past 30 years there has been a considerable growth of interest in mental illness, much of this has been concentrated on the psychological or clinical aspects. Fundamental studies of brain chemistry have received relatively less attention, in spite of the accumulating evidence that minor changes in oxygen supply, deficiencies in vitamins, or the administration of small amounts of certain drugs can produce abnormal behavior much like that seen in mental illness.

Among the institutions in the United States which have a primary interest in brain chemistry is McLean Hospital in Waverley, Massachusetts. McLean, an affiliate of Massachusetts General Hospital, has fostered a special interest in this field for half a century. In 1946 it dedicated a new laboratory building exclusively given over to basic research on the nervous system. Dr. Jordi Folch-Pi is director of scientific research at the laboratory.

Following a master plan that was formulated five years ago, the laboratory is carrying on a long-term investigation of the "chemical anatomy" of the brain, that is to say, the distribution of brain components in relation to histological structure.

Under Dr. Folch's personal direction, one research team is now occupied in an analysis of the fat and protein substances which form the principal compo-

nents of brain structure. Since many of the substances occurring in the brain are found nowhere else in the body and require entirely new methods of study, techniques for separating these components from each other were poorly understood at the beginning of the work. By now it has been possible to isolate and partially identify three new types of complex molecules. The next stage of the work, which will take many more years to complete, involves the precise description of these substances in terms of chemical composition and molecular size and shape. The relatively rough characterizations now available, however, allow a start to be made in finding out whether the brains of persons with mental or neurological disease differ in chemical composition from normal ones.

A second program at the McLean Hospital laboratory is under the direction of Dr. Alfred Pope. The cerebral cortex, in which the nervous reactions that underlie most complex and refined behavior take place, is a layer of cells and fibers approximately one-eighth of an inch thick. Within this thin layer of "grey matter" some six smaller sublayers may be discriminated on the basis of number and size of cells and the pattern of interlacing fibers. Dr. Pope's efforts are directed at determining the concentration of specific enzymes in the different cortical layers. Alternate sections about 40 thousandths of a millimeter thick and a few square millimeters in area are taken — one for microscopic study and the other for microchemical analysis. The distribution of six different enzymes in the various cortical layers has

already been mapped, both for the rat and for man. These studies provide the groundwork for a chemical pathology of the brain, and work is already in progress to map the distribution of enzymes in the cortex of patients suffering from the major mental and neurological diseases.

In 1952 The Rockefeller Foundation appropriated an outright grant of $100,000 in support of the research in brain chemistry at McLean Hospital. This grant is intended to help Dr. Folch stabilize and expand the long-term research program. At the present time over two-thirds of the laboratory funds are derived from temporary grants in aid.

INDIANA UNIVERSITY

Research in Psychotherapy

Under the chairmanship of Dr. Herbert S. Gaskill, the Department of Psychiatry at the Indiana University Medical Center, Indianapolis, has become increasingly concerned with the development of research methods to provide accurate information about the effectiveness of modern psychotherapeutic methods. In recent years Dr. Philip F. D. Seitz, who now holds the post of director of psychiatric research in the department, has been engaged in a program of research in psychotherapy directed at psychosomatic disorders. In 1952 The Rockefeller Foundation appropriated $56,500 toward a three-year project directed by Dr. Seitz. Dr. Seitz's experimental plan includes provision for comparing the results of three different types of psychotherapy as applied to comparable groups of patients suffering from a single

well-defined disease. Such studies are, of course, common in other branches of medicine but so far have rarely been encountered in the evaluation of therapy for mental and emotional illness.

UNIVERSITY OF CINCINNATI

Psychiatry

Over the past ten years, the Department of Psychiatry at the University of Cincinnati has developed into one of the leading institutions of its kind. Since 1946, especially, it has expanded its activities in response to the postwar demand for larger numbers of psychiatrists. At present it has 21 physicians and fellows in training and carries on an extensive program for undergraduate medical students. A substantial portion of the men who have received graduate training at Cincinnati themselves hold at least part-time academic posts and are thus helping to fill the need for more psychiatric training facilities.

Dr. Maurice Levine, who is in charge of the Department of Psychiatry, has assumed unusual responsibility in relation to the Cincinnati community. In addition to their activities in a large outpatient clinic, he and his staff take an active part in consultation with the Juvenile Court and other public agencies; special courses have been organized for private physicians and for students at the Hebrew Union College.

Research activities of the department are primarily concerned with psychosomatic disorders. The hospital facilities available for teaching purposes comprise some 60 beds for patients with major psychoses and a small, specially constructed ward for intensive study of psychosomatic cases. The department main-

tains close affiliation with a home for seriously disturbed children and with a special laboratory for biochemical studies of metabolic disorders.

A major part of the operating funds of the Department of Psychiatry is currently provided by the United States Public Health Service, the Community Chest, and private philanthropic agencies. Since 1947, The Rockefeller Foundation has appropriated $175,000 for the department; in 1952 an additional fund of $40,000 was granted.

SUPERIOR INSTITUTE OF PUBLIC HEALTH, ROME

Biology of the Housefly

The Rockefeller Foundation for nearly 30 years has cooperated with the Superior Institute of Public Health in Rome and the experimental laboratories which preceded it. The Foundation contributed nearly $1,000,000 toward construction and equipment of the institute. Among the collaborative studies of the two organizations are the *Anopheles maculipennis* studies carried out between 1924 and 1939 by the late Professor Alberto Missiroli, an outstanding Italian malariologist, and Dr. Lewis W. Hackett, recently retired as Associate Director of the Foundation's International Health Division. Between 1949 and 1951 the Foundation helped the institute's Division of Parasitology to establish a field laboratory for the study of insecticides in the Province of Latina.

While the studies in Latina have been devoted primarily to mosquitoes, it was here, in 1947, that investigators first observed that houseflies become resistant to DDT after a fairly brief period of ex-

posure. To facilitate further studies on this troublesome problem, the Foundation in 1952 provided a three-year grant of $49,040 ($9,000 and 21,600,000 lire) to the Superior Institute of Public Health. Professor Domenico Marotta, director of the institute, and Dr. Ezio Mosna, chief of the Division of Parasitology, are expanding the program in order to study the basic factors of housefly resistance to organic toxicants. Dr. Mosna has undertaken studies of the anatomy, taxonomy, biology, physiology, and genetics of the housefly. Working with him is a well-trained staff of chemists, insect physiologists, parasitologists, biologists, and entomologists. Mr. A. Buzzati-Traverso, professor of genetics at the University of Pavia, acts as consultant to the group.

While the research is at present limited to the laboratory, field studies may be undertaken later in an attempt to integrate chemical, biological, and environmental sanitation factors into a practical approach to the control of houseflies in rural areas. The findings of this program may help to explain resistance mechanisms in fleas, lice, bedbugs, and mosquitoes other than *A. maculipennis*.

INDIAN CANCER RESEARCH CENTRE

Studies on Human Variation

The Rockefeller Foundation has appropriated $23,800 ($9,500 and 65,000 rupees) to the Indian Cancer Research Centre in Bombay, toward equipment and operating expenses of a laboratory of studies on human variation. This grant is available for three years.

The Cancer Research Centre was until recently known as the Tata Memorial Cancer Hospital, supported by the Tata Family Trust. The name was changed in 1952, when the Indian government took over financial responsibility. Construction of a new laboratory research building was completed during the year.

Under its director, Dr. V. R. Khanolkar, the centre has recently expanded its investigations of blood type and related genes to include work on inherited diseases and deficiencies. Parallel with the laboratory research, Dr. Khanolkar plans to conduct surveys of the mating structures of Indian population groups. The caste system in India offers an unusual opportunity for studies of recessive and other genes and their relation to disease. Malignancies of genetic origin in children and abnormal states of the blood, known as dyscrasias, are to receive special attention.

During the year the Foundation approved two grants in aid for the purchase of essential equipment in two other units of the centre: $6,500 for the Tissue Culture Laboratory, under Mrs. Kamal J. Ranadive; and $2,500 for the Neuropathology Unit, under Dr. Subrami C. G. Iyer. Both Mrs. Ranadive and Dr. Iyer have recently spent periods of study in the United States as Foundation fellows.

CHILE

National Department of Sanitary Engineering

In 1952 The Rockefeller Foundation renewed aid to the National Department of Sanitary Engineering in Chile with a grant of $30,000 for the purchase of well-drilling and sanitary garbage disposal equip-

ment. This department, for the past three years, has been reorganizing its services to achieve a nationwide program of basic sanitation within the framework of the National Health Service. The department receives enthusiastic support from other government units, the University of Chile's public health and engineering schools, and the Institute of Inter-American Affairs. An increase in government funds for salaries will allow the department to build up a staff of 70 engineers and 600 inspectors in 1953. A new law gives civil service status to this personnel.

An important accomplishment of the year was the passage and enforcement of the first ordinance for the control of public eating places in the city of Santiago. In addition to the improvement of numerous water supplies and the preparation of a project for the fluoridation of a municipal water supply, the Department of Sanitary Engineering set up sanitary workshops in Santiago and Valparaíso. The workshops have designed and built low-cost home bathroom installations, shallow-well hand pumps, home filters, and chlorinators. Successful community organization programs have resulted in the extension of water and sewer mains at minimum cost to the government. During the year also a successful rodent control program was financed by the local population of Valparaíso. A survey of the industries in greater Santiago was completed.

DENMARK: NATIONAL HEALTH DEPARTMENT

Morbidity Survey

A national morbidity survey now proceeding in Denmark under the auspices of the National Health

Department serves as a pilot plan for establishing administrative and legislative measures for routine reporting of diseases. The new international morbidity classification promulgated by the World Health Organization has been applied in the survey. A 1949 grant of $22,500 from The Rockefeller Foundation to help get the survey started was supplemented in 1952 by a further appropriation of $19,500 (130,000 Danish crowns), available until the end of 1954.

A survey of this type had never been undertaken in Denmark. Along with the training and organization of a staff of interviewers, a sampling method had to be developed. Following the pattern of a similar local survey in England, the survey committee adopted a plan by which large numbers of adults are interviewed once by many part-time investigators. Prior to the survey proper, there was a preliminary study to get the reaction of the population and to make sure the questionnaire was relevant.

In June 1951, interviewing was started all over the country. Reporting by lay investigators is verified whenever possible by doctors of individual patients. The survey in the general population is expected to extend over a three-year period. In the meantime, a special investigation of hospitalized diseases is scheduled for the year 1952–1953.

SMALL APPROPRIATIONS

UNIVERSITY OF WÜRZBURG

Atlas of the Human Brain

In connection with a new technique for brain surgery, Dr. Georges Schaltenbrand of the University

of Würzburg, Germany, in collaboration with Dr. Percival Bailey of the University of Illinois, has undertaken the preparation of an atlas of the human brain. The new technique involves the use of a stereotactic instrument enabling the surgeon to make accurate placement of electrodes in the deep structures of the brain, the only necessary incision being the small hole through which the electrode needle passes. Once placed, the electrodes may be used either to record electrical activity or to stimulate or destroy small, precise, localized groups of cell bodies or nerve tracts. While this technique has been known for many years, its use in man is limited, partly because of the lack of accurate maps to aid adjustment of the instrument to the variations in the size and shape of the human skull.

Toward the Würzburg-Illinois project of preparing an atlas of the human brain, The Rockefeller Foundation in 1952 appropriated $12,750 for three years to the University of Würzburg. Dr. Schaltenbrand will have working with him Dr. Luis Amador, a neurosurgeon on Dr. Bailey's staff in Chicago. In 1952 Dr. Schaltenbrand also received a grant in aid of $2,560 for travel expenses in connection with visits to American centers of research on virus infections of the central nervous system.

COLUMBIA UNIVERSITY

Brain Chemistry

Research on the chemistry of brain tissue is going forward under the direction of Dr. Heinrich Waelsch

of Columbia University. Dr. Waelsch is assistant professor of biochemistry in the College of Physicians and Surgeons and head of the new Department of Pharmacology at the New York State Psychiatric Institute. For several years his principal interest has centered on the metabolism of two amino substances, glutamic acid and glutamine. Glutamic acid is one of the few amino acids that seem to take part in the energy changes of nervous tissue. Dr. Waelsch's recent work suggests that the two substances may be involved in the synthesis of the special protein substances which compose the nerve cells.

In continuation of support given to Dr. Waelsch's work in brain chemistry since 1947, The Rockefeller Foundation in 1952 appropriated $6,000 to Columbia University.

GEORGIA STATE COLLEGE FOR WOMEN

Medical Genetics

During the past five years, with support from The Rockefeller Foundation, Mr. Clyde Keeler of the Georgia State College for Women, Milledgeville, has carried on a program of research in medical genetics. Further aid to this program was provided in 1952 through a two-year grant of $3,000.

Mr. Keeler is especially interested in hereditary pigment variations in vertebrate animals and man. It seems possible that inherited pigment variations may often be closely related to variations of morphology and physiology. For his studies on human beings Mr. Keeler works in cooperation with the

nearby State Hospital for Mental Patients. He has also spent some time in Panama to study the albinistic moon-children among the Caribe Cuna Indians.

ST. THOMAS'S HOSPITAL MEDICAL SCHOOL, LONDON

Physique and Physiological Function

That there is some relation between behavior and physique has been suspected for some time; however, only in the past 25 years has there developed a sufficiently simple method of classifying human physical types to allow application on a large scale. From the medical point of view, much remains to be done on clarifying possible associations between body build and mental and physical disease characteristics.

The Sheldon technique of somatotyping has recently been introduced into Great Britain through the efforts of Dr. J. M. Tanner of the Sherrington School of Physiology at St. Thomas's Hospital in London. In investigations of the university population at Oxford, Dr. Tanner has found an abnormally high percentage of ectomorphs (Ichabod Cranes), and these are concentrated in the more difficult courses of the university. Social life is carried on to a disproportionate extent by the endomorphs (Mr. Pickwicks). The mesomorphs, or "muscle and bone men," characteristically are found in the athletic clubs and on the university teams.

Dr. Tanner feels that research into the physiological relationships of physique can clarify these differences. He has in progress studies of two distinct populations — medical students from St. Thomas's Hospital and some Oxford students, and a group of children in a

children's home in Harpenden. The students at St. Thomas's have been somatotyped and subjected to measurement by photography and X rays for the past two years. In the near future a variety of biochemical and endocrinological tests are to be added to the study. Dr. Tanner and his associates hope to obtain objective evidence of the susceptibility to disease of certain physiques or certain biochemical constitutions. The Harpenden children will be followed through the postadolescent period to elucidate the relationships between changes in physique and function at different ages.

The Rockefeller Foundation has appropriated $13,500 (£4,500) to be used over a three-year period toward the research program under Dr. Tanner at St. Thomas's Hospital Medical School. Dr. Tanner completed his medical training at the University of Pennsylvania and Johns Hopkins Hospital under a wartime program of aid to British medical students to which the Foundation contributed.

MASSACHUSETTS GENERAL HOSPITAL

Endocrinology and Metabolism

Rockefeller Foundation support to Dr. Fuller Albright's program of research on endocrinology and metabolism at Massachusetts General Hospital, Boston, was renewed in 1952 with a three-year grant of $10,000. Dr. Albright has for many years been a leader in investigations of the effects of the endocrine glands on the chemical reactions of the body.

Dr. Albright's work is principally concerned with analyzing the conditions under which the adrenal

cortex produces three different sorts of effect: on carbohydrate metabolism, on sodium and potassium secretions, and on protein storage and sexual development. It is still not certain whether separate hormones are involved in each of these processes, but it does appear that each function is more or less independent of the other. The principal method employed for unraveling these interactions is by "metabolic balance studies" on patients suffering from an excess or deficiency in one or another of the hormonal effects.

UNIVERSITY OF HEIDELBERG

Physiological Institute

The Physiological Institute of the University of Heidelberg, Germany, has received Foundation support toward its teaching and research program through a 1952 grant of $10,000, available for three years. The institute is directed by Professor Hans Schaefer. Formerly head of the cardiological research laboratories at Bad Nauheim, Professor Schaefer's interest centers on the physiology of the heart. A part of the current grant will enable Professor Schaefer to study medical teaching and recent research developments in his field in America.

UNIVERSITY OF PAVIA

Anopheline Cytogenetics

A program of investigation on the cytogenetics of anopheline mosquitoes is in progress at the University of Pavia, Italy. Professor Guido Frizzi of the university's Institute of Zoology is redirecting atten-

tion to the European mosquitoes of the *Anopheles maculipennis* complex, some members of which are dangerous vectors of malaria. As is well known, adults and larvae of this and other complexes of both anopheline and culicine mosquitoes are morphologically so similar that they cannot be separated by gross inspection. They are different only in behavior characteristics and in egg patterns. Prompt identification of these different species has long been an important problem to disease control workers.

Professor Frizzi, approaching the problem through studies of salivary chromosomes of mosquito larvae, has worked out a differentiation among members of the *maculipennis* complex on the basis of patterns of the giant chromosomes of the fourth-stage larvae. With his discovery of specific differences in chromosomal patterns, a chromosome key to six species of the complex has been formulated. The chromosomal patterns correlate with the egg patterns.

The Rockefeller Foundation has supported these studies at Pavia since 1949, with grants totaling $12,000. Further aid has been provided through a 1952 grant of $7,200 available over the next two years.

UNIVERSITY OF TORONTO

Research and Teaching in Medical Care

In Canada the last decade has been a period of noteworthy growth in voluntary hospital and medical care plans. Prepaid medical care is available in several provinces, and compulsory hospital and health insurance is well established in others. Dominion aid

is provided through a program of health grants in aid to the provinces.

To fill the need for a university center to undertake basic research in medical care and provide trained personnel for the expanding programs, the School of Hygiene of the University of Toronto for the past few years has been developing a section of medical care studies in its Department of Public Health Administration. In this program the School of Hygiene has had the support of The Rockefeller Foundation since 1949. Instruction is provided to candidates for diplomas in public health and hospital administration and for degrees in social work; a special advanced course is available to medical and nonmedical personnel preparing for careers in medical care administration.

The school is also promoting long-term studies in social medicine, medical economics, and the administration of medical care plans. Research staff have already participated in the Newfoundland and Saskatchewan medical care surveys, and current plans call for extensive studies in Ontario, Canada's largest and most highly industrialized province. As Ontario is the site of greatest expansion in both voluntary and commercial health insurance plans, it is of considerable interest to evaluate these plans and their implications for public policy decisions.

From the teaching point of view, the university is interested in establishing closer cooperation between the School of Hygiene and the Faculty of Medicine. A combined program for the teaching of medical care is under discussion. The Faculty of Medicine, in the meantime, has begun a program of teaching medical

students in the home under the supervision of general practitioners. By agreement between the faculty and the Toronto General Hospital's outpatient department, the medical-social worker of the hospital has been given responsibility for initiating this home-care scheme. The group of students selected for this experiment will meet in seminar with the chief physician of the outpatient department, a representative of the Department of Preventive Medicine, and the medical-social worker; lectures on the social and economic aspects of health will be augmented.

In 1952, The Rockefeller Foundation renewed its support to the program of teaching and research in medical care at the University of Toronto with a one-year grant of $10,500.

EUROPEAN SYMPOSIA ON MEDICAL EDUCATION

In each of the years 1949, 1950, and 1951, a group of approximately 22 European leaders in medical education, including representatives from Belgium, Denmark, France, Germany, Holland, Italy, Norway, Sweden, Switzerland, and the United Kingdom, met at an informal conference for discussion of the problems of medical education. These three seminars have proved successful in guiding the curricular changes pending in some countries. Two further sessions are planned, one each in 1952 and 1953, to promote a free exchange of ideas on such topics as relations between university and state, international university relations, documentation of medicine, student selection, training and selection of teachers, promotion of health sciences, and integration of the curriculum.

A grant of $7,000 from The Rockefeller Foundation will be used to cover travel, hotel, and incidental expenses incurred by the representatives of European medical schools in attendance at the Fourth and Fifth Symposia on Medical Education. Similar aid was provided for the first three symposia.

GRANTS IN AID

During 1952, The Rockefeller Foundation expended a total of $270,363 for its grant-in-aid program in medicine and public health. Some 114 projects in 33 countries received grants during the year. The three basic purposes of the grants were: to facilitate study trips by medical educators, scientists, and public health administrators (67 grants); to provide equipment for research and teaching purposes (27 grants); and to support special research or teaching programs (20 grants). Like the larger grants, the grants in aid reflected divisional interests in neurology, psychiatry, physiology, anatomy, human genetics, experimental surgery, child health, sanitary engineering, disease control, virus research, and medical education. Aid was continued to malaria control and anemia studies carried out in cooperation with the government of Mysore State, India, and to the Endemic Disease Control Service of the Dominican Republic. Nearly one-third of the grants in some way promoted the teaching and practice of public health and preventive medicine or permitted study of medical care programs.

ARGENTINA

Mercedes and Martin Ferreyra Institute of Medical Research, Córdoba; $8,000 for the purchase of essential equipment to be used under the direction of Dr. Oscar Orias

AUSTRALIA

Mr. Leonard Bell Cox, Department of Neurology, University of Melbourne; $1,700 for travel and living expenses while in the United States and Canada studying the latest developments in neurology and neuropathology

Dr. John P. O'Brien, University of Sydney; $1,500 for living expenses while working on skin pathology at the New York University-Bellevue Medical Center, for six months

Dr. A. G. Roche, Department of Anatomy, University of Melbourne; $1,700 to visit institutions in the United States and Canada where problems of growth and physical development are being studied

AUSTRIA

University of Graz:

36,000 Austrian schillings (approximately $1,440) for basic research in comparative neurophysiology in the Institute of Zoology

$6,353 to purchase laboratory equipment for the Pharmacological Institute directed by Professor Hans Hausler

University of Vienna; $8,000 for the purchase of research equipment for the Pharmacological Institute

BELGIUM

Dr. Marcel Graffar, professor of social medicine and director of the Institute of Social Medicine, University of Brussels; $2,575 for a three-month stay in the United States and Canada to study social medicine and social psychology

BOLIVIA

Dr. Jorge Doria Medina, Ministry of Health of Bolivia, La Paz; $1,400 to observe methods of yellow fever control in Brazil

BRAZIL

Araraquara Rural Health Training Center, State of São Paulo; $5,000 for continued support and the purchase of equipment

Ivan Ricciardi, National Malaria Service of Brazil, Rio de Janeiro; $3,200 to carry on entomological studies in Pavia, Italy

CANADA

Dr. Milton Herbert Brown, professor of hygiene and preventive medicine, University of Toronto School of Hygiene; $425 living and travel expenses while in the United States for 15 days to observe methods of teaching preventive medicine and medical care

Miss Alice G. Nicolle, educational supervisor, Division of Public Health Nursing, Ontario Department of Health; $950 to observe methods and developments in nursing education and practice in the United States

University of Manitoba, Winnipeg; C$10,000 (approximately $10,000) to assist in the development of the teaching and research services in connection with the emotional needs of babies and children at the Department of Pediatrics, Faculty of Medicine; available for three years

University of Toronto, College of Public Administration; $9,700 to enable Professor Malcolm G. Taylor to complete a study on the administration of health insurance in Canada

CEYLON

Dr. Noel Garth Baptist, Department of Physiology, Faculty of Medicine of the University of Ceylon, Colombo; $2,400

to observe new developments in biochemistry, as well as modern curricula and methods of teaching in the United States

Dr. Paul Kirupal Chanmugam, professor of anatomy, Faculty of Medicine, University of Ceylon, Colombo; $3,250 for a visit to the United States to study plans for the building of a new anatomy building at Paradeniya

CHILE

Mr. G. Adolfo Acevedo D., director of Dirección General de Agua Potable y Alcantarillado, Santiago; $2,950 to study modern sanitary engineering operations in the United States and Canada

Bacteriological Institute of Chile, Virus Section, Santiago; $5,000 for research by Dr. Guillermo Contreras Da Silva, under the direction of Dr. Paul Palacios

Catholic University of Chile, Santiago; $2,980 for the purchase of equipment for the department of cardiac surgery

Dr. Jaime Talesnik, Institute of Physiology, University of Chile Faculty of Medicine, Santiago; $1,650 travel expenses to visit the United States and Canada on his return from a year of study in England

Travel expenses of eight sanitary engineers of the National Department of Sanitary Engineering, Dirección General de Sanidad, Santiago; $500 for a round trip from Santiago to Buenos Aires, Argentina

University of Chile, Santiago; $10,000 for the purchase of equipment for the Department of Parasitology

COLOMBIA

Dr. Alberto Duque, dean of the Javeriana Medical School, Bogotá; $2,400 for a visit to the United States to study methods of medical education

DENMARK

Dr. Knud Aage Lorentzen, pathologist, State Psychiatric Institute, Aarhus, and assistant professor of neuroanatomy

and neuropathology, University of Aarhus; $2,350 for a three-month trip to the United States and Canada to confer with prominent specialists in the field of neuropathology

Dr. Mogens D. Lund, chief physician, Neurological Department, County and City Hospital, Odense; $2,537.34 to visit the United States and Canada to study recent advances in his field of interest

Dr. Knud Brochner-Mortensen, professor of internal medicine, University of Copenhagen; $2,700 for travel to the United States to study medical education

University Pediatric Clinic, Rigshospitalet, University of Copenhagen; $2,125 for the purchase of equipment to be used by Dr. Jorgen Vesterdal

DOMINICAN REPUBLIC

Endemic Disease Control Service; $4,000 as continued aid in cooperation with the Dominican government

EAST AFRICA

Dr. Evangel Howard Murcott, provincial medical officer of Nyanza Province, Kenya; $2,650 to observe methods of medical care in Bombay, Ceylon, Fiji, and Durban

EGYPT

Dr. Sayeed Abdou, professor of public health, Fouad I University, Cairo; $750 to observe public health teaching and activities in the United States and Canada

FINLAND

Dr. Osmo Jarvi, dean of the Faculty of Medicine, University of Turku; $2,375 to observe modern curricula and methods of teaching in the United States

University of Helsinki:

870,000 Finnish marks (approximately $4,350) for the

purchase of teaching equipment to be used by the Institute of Hygiene

$2,500 for the purchase of equipment for the Psychological Institute

FRANCE

Laboratory of Neonatal Research, Baudelocque Obstetrical Clinic, University of Paris; $3,200 for the purchase of equipment to be used by the laboratory's director, Dr. Alexandre Minkowski

Dr. Alexandre Minkowski, Baudelocque Obstetrical Clinic, University of Paris; $2,400 travel expenses to United States to renew contacts with work being done on premature babies

University of Lyon; $2,256 for the purchase of equipment for the Laboratory of Experimental Surgery of the Faculty of Medicine, under the direction of Professor Pierre Mallet-Guy

University of Strasbourg; 2,300,000 French francs (approximately $6,900) toward the support of research at the Institute of Physiology, under the direction of Professor Charles Kayser

GERMANY

Johann J. Buecken, Josef Hamacher, Alois Schmitz, and Heinz F. Reuter, public health officials of Germany; $360 as a travel grant for observation of public health administration and methods of instruction in the University of Toronto

Children's Hospital, University of Kiel; $1,974 for the purchase of apparatus to be used by Erich Rominger, professor of pediatrics and director of the Children's Hospital

Dr. Carola Hannappel, director of the Child Guidance Clinic and Marriage Counseling Service of the Department of Public Welfare of the City of Frankfurt am Main; $2,215.56 for

expenses of coming to the United States to observe the techniques and management of child clinics; for three months, beginning September 1952

Professor Hans Harmsen, director of Institute of Hygiene, Hamburg; $2,675 to observe developments in public health and social aspects of medical education in the United Kingdom and the United States

Fritz Hoeffken, Emil Greul, Josef Huenerbein, Artur Unger, and Hans von Behring, health officials of Germany; $450 as a travel grant for a visit to Toronto, Canada, after a visit to the United States to study public health administration

Physiological Institute of the University of Kiel; $2,425 for the purchase of equipment for the use of Erich Opitz, professor of physiology and director of the institute

Dr. Hildegard Rothmund, public health consultant, Public Health and Welfare Branch of the Office of the United States High Commissioner for Germany, Frankfurt am Main; $2,700 to observe public health practices in Great Britain and the United States

Professor Georges Schaltenbrand, director, Neurological Clinic, University of Würzburg; $2,560 for living expenses for three months in the spring of 1952 while visiting centers of work on virus infections of the central nervous system, in the United States and Canada

Dr. R. Schoen, director of the Medical Clinic, University of Göttingen; $2,250 for travel and living expenses while observing modern medical curricula and methods of teaching in the United States and Canada

University of Hamburg:

4,000 German marks (approximately $1,000) for the purchase of equipment for the II Medical Clinic of the Department of Internal Medicine; the equipment is for the use of Professor A. Jores

Professor Joachim Kuhnau, professor of physiological chemistry and director of the Physiological Chemistry

Institute; $2,700 to visit the United States and observe experimental work in medical education in American universities and research institutions

Professor Rudolf Mond, professor of physiology and director of the Physiological Institute; $2,750 travel expenses while in the United States and Canada to observe the latest methods in medical instruction

Professor Klaus-Joachim Zülch, director of the neurologica section of the Max-Planck Institute, Cologne-Lindenburg; $2,200 for a visit to the United States and Canada to observe work in neurological and neurophysiological centers

GREAT BRITAIN

Blood Group Reference Laboratory, London, England; £400 (approximately $1,200) to send Dr. J. N. Marshall Chalmers to Nigeria to study the incidence of a new blood group

Child Guidance Clinic, Department of Child Life and Health, University of Edinburgh, Scotland; $1,400 for the use of Dr. Margaret M. Methven in obtaining materials for testing and play therapy

Dr. Charles B. B. Downman, Sherrington School of Physiology, St. Thomas's Hospital, London, England; $1,900 for travel expenses to the United States, where he will teach and visit laboratories

Professor Bernhard Katz, professor of biophysics and director of the biophysics department, University College, University of London, England; $460 to visit research centers in biophysics and neurophysiology along the east coast of the United States in the summer of 1952

Dr. Alexander Mair, Medical School, University of St. Andrews, Scotland; $2,300 to observe teaching methods in public health in the United States and Canada

Nuffield Institute for Medical Research, University of Ox-

ford, England; $1,800 for the purchase of a Machlett Super-Dynamax X-ray tube

Dr. John Pemberton, senior lecturer in social and industrial medicine, University of Sheffield, England; $2,550 to observe teaching methods in social and preventive medicine in the United States and Canada for about three months

Dr. Mary Pickford, lecturer in the Department of Physiology, University of Edinburgh, Scotland; $800 for travel and living expenses while visiting physiological centers in the United States and Canada

Mr. Donald Arthur Sholl, lecturer, Department of Anatomy, University College, University of London, England; $400 to visit centers of neuroanatomical and physiological research in the United States for a period of two weeks

Dr. Andrew Topping, dean of the London School of Hygiene and Tropical Medicine, University of London, England; $2,200 to observe teaching methods and the practice of public health administration in the United States and Canada

University of Manchester, England; $3,300 for the purchase of laboratory equipment for the use of Dr. S. W. Stanbury of the Department of Medicine

University of Oxford, England:

Dr. David Sinclair, Department of Human Anatomy; $2,600 to observe teaching methods and experiments in the field of anatomy during his trip to the United States and Canada

Dr. Sidney C. Truelove, assistant physician and director of clinical studies at the Medical School; $2,525 to visit the United States and Canada to study experiments in medical education

$6,000 for the purchase of apparatus and supplies for neurophysiological research by Dr. Edward Miles Vaughan Williams of the Department of Pharmacology

Miss Lennox Pratt Yule, Child Guidance Clinic, Department of Child Life and Health, University of Edinburgh, Scotland; $2,025 travel, tuition, and living expenses while observing methods of social work in the United States

INDIA

Dr. LeRoy Richard Allen, prospective head of the Preventive Medicine and Public Health Department of the Christian Medical College, Vellore; $2,750 for travel expenses while on a study visit to the United States, Puerto Rico, and Great Britain

Dr. Paul Wilson Brand, associate professor of orthopedics, Christian Medical College, Vellore; $3,050 to visit the United States to contact medical people interested in the functional reconstruction of the hands and in experimental investigations of peripheral nerve pathology and physiology

Department of Pathology, King George's Medical College, University of Lucknow; $600 to purchase equipment for the use of Dr. Ram Mohan Mehrotra

Indian Cancer Research Centre, Bombay; $6,500 for essential apparatus, instruments, and supplies to equip the Tissue Culture Laboratory directed by Mrs. Kamal J. Ranadive

Indian Council of Medical Research, New Delhi:

$2,025 for allocation to the Department of Anatomy of Prince of Wales Medical College, Patna University, Bihar, to purchase photomicrographic equipment and a binocular microscope for use of Mr. N. L. Mitra, lecturer in anatomy

$3,000 for the purchase of spectrophotometric equipment and research chemicals, for allocation to Dr. H. S. Chakravarti at the School of Tropical Medicine, Calcutta

Tata Memorial Hospital, Bombay; $2,500 to purchase apparatus and equipment for the Neuropathology Unit under the direction of Dr. Subrami C. G. Iyer

Mysore State, Bangalore:

$6,000 for continued support of malaria studies in cooperation with the Mysore Health Department

$1,000 for the continuation of anemia studies in cooperation with the Mysore Health Department

$6,000 to the Mysore Health Department to assist in the improvement of public health laboratory services

Mr. Krishnan Ramachandran Pandalai, assistant surgeon, District Headquarters Hospital, Mangalore; $3,050 to visit the United States, spending two months at Woods Hole and centers of anatomical teaching and research

Mr. J. D. Shastri, senior architect, Directorate General of Health Services, New Delhi; $3,800 to observe the latest hospital architectural developments in the United States

Mr. Narayanan Krishnan Tampi, Trivandrum Medical College, Travancore-Cochin State; $358 to observe methods of medical education in India

Dr. Kolar Ramakrishna Iyer Venkatesan, assistant director of the Bureau of Malariology, Mysore State Health Department, Bangalore; $360 to observe methods of malaria control in India and Ceylon

ITALY

Professor Augusto Giovanardi, director of the Institute of Hygiene, University of Milan; $2,500 to study methods of virus research and organization in the United States

Institute of Genetics, University of Naples; 2,000,000 lire (approximately $3,660) to support a study on microcythemia under the direction of Professor Giuseppe Montalenti, director of the institute

University of Bari, Institute of Clinical Medicine; $2,500 for the purchase of apparatus for the use of Dr. Michele Zacco in his work on the chemistry of adrenocortical steroids

JAPAN

Department of Neuropsychiatry, Nagoya National University Medical School; $7,000 for the purchase and installation of an electroencephalograph

Institute of Public Health, Tokyo; $3,000 for the Department of Public Health Demography for continuation of health and demographic studies in Japan

NETHERLANDS

Professor Johan Kornelis Baars, Research Institute for Public Health Engineering, T.N.O., The Hague; $2,400 to observe research techniques in sanitary engineering in the United States, for three months

Children's Clinic, University Hospital, Groningen; $2,500 for the purchase of equipment to be used by Professor J. H. P. Jonxis, professor of pediatrics and director of the clinic in biochemical research

Professor Jan Droogleever Fortuyn, University of Groningen; $2,400 to visit the United States to study teaching methods and techniques in neuroanatomy, neurophysiology, and clinical neurology

Professor Arie Querido, professor of social medicine, University of Amsterdam, and director of Public Health and Hospitals, Amsterdam; $1,100 to observe methods of teaching social medicine in the United Kingdom for a period of two months

NORWAY

University of Oslo; $1,050 for the use of Dr. Jan Mohr in setting up a laboratory of human genetics at the university's Institute of Genetics

PERU

Dr. Alfredo Lynch C., chief of the Division of Hygiene and Health Education, Ministry of Public Health, Lima; $825 to

observe methods of maternal and child health work and health education in Chile

SOUTH AFRICA

Miss Helen Dorothy Cohn, Institute of Family and Community Health, Durban; $3,700 for a four-month visit to the United States, Canada, Great Britain, and France to observe public health nursing and social work

SPAIN

Dr. Ramón Sarró Burbano, professor of psychiatry in the Faculty of Medicine of the University of Barcelona; $2,250 to observe the teaching and practice of psychiatry in the United States

SWEDEN

Dr. Gunnar Svaetichin, Physiological Institution, Karolinska Institute, Stockholm; $900 toward expenses while in the United States during June to participate in the Cold Spring Harbor Symposium on Quantitative Biology and to visit laboratories working in the field of neurophysiology

SWITZERLAND

Professor Hans Biasch, professor of industrial psychology, Federal Technical Institute, Zurich; $2,300 for travel and living expenses while in the United States observing centers of industrial hygiene training

TURKEY

Admiral Bristol Hospital, Istanbul; $8,500 to purchase equipment for a thoracic surgery unit under the direction of Dr. Lorrin A. Shepard

Dr. Zeki Faik Ural, Faculty of Medicine, University of Ankara; $2,350 to become acquainted with the interrelationships in departments of hygiene and preventive medicine in educational institutions in the United States and Canada

UNITED STATES

American Society of Human Genetics; $4,200 toward the general expenses of the society

Dr. Glen Leymaster, professor of preventive medicine and public health, College of Medicine, University of Utah, Salt Lake City; $1,300 for expenses while visiting medical schools and institutions in the United States and Canada, for a period of two months

Dr. James Angus McCallum, medical superintendent, Montebello Hospital, Baltimore, Maryland; $1,250 to observe the practice of medical care in the United States and Canada, in connection with Maryland's plans for the improvement of medical care in that state

Dr. Henry B. Makover, medical director, Central Manhattan Medical Group, and consultant and member of Medical Advisory Committee, Yeshiva Medical School, New York; $2,400 to observe teaching methods in preventive and environmental medicine in the United States and Great Britain

Maryland State Planning Commission, Baltimore; $7,900 to assist the Maryland Committee on Medical Care in carrying out studies and surveys on medical care problems in that state

Dr. L. E. Powers, Department of Public Health and Preventive Medicine, School of Medicine, University of Washington, Seattle; $700 to enable him to observe new methods of teaching preventive medicine in the United States

Public Health Research Institute of The City of New York, Inc.; $10,000 in support of an investigation of the effects of certain types of stress on susceptibility to tuberculosis

Dr. Conrad Rosenberg, acting director, New York University Medical Group; $1,150 to visit medical schools and institutions to study teaching methods and medical care with a view to introducing new methods at New York University

Dr. Lewis Thomas, professor of pediatrics and medicine, University of Minnesota Medical School, Minneapolis; $1,900 for travel expenses while in Great Britain and on the Continent to visit laboratories doing work on rheumatic fever and related problems

United Community Services of Metropolitan Boston, Massachusetts; $10,000 to assist its Health Division in the planning phase of the proposed regionalization studies

University of Buffalo School of Medicine, New York; $5,000 for the salary of a research associate to evaluate the effectiveness of regional medical programs

University of Michigan, School of Public Health, Ann Arbor; $8,500 for Charles Metzner to continue in the Bureau of Public Health Economics for a second year as the bureau's formally trained social scientist

University of North Carolina, Chapel Hill; $8,000 toward expenses of a working seminar where experts are to discuss needed research in health care

Western Reserve University, Cleveland, Ohio; $7,500 to the School of Medicine for support of Dr. Saul R. Korey's research in the metabolism of the nervous system

VENEZUELA

Dr. Antonio Ramón Montilva, chief of the San Cristóbal Health Unit, State of Tachira; $450 to observe methods of medical care and public health administration in Puerto Rico, for about two weeks

Dr. Daniel Orellana, assistant director of public health, Ministry of Public Health and Social Assistance; $450 to observe methods of medical care and public health administration in Puerto Rico, for about two weeks

WEST INDIES

Dr. Philip Hugh-Jones, senior lecturer in medicine, University College of the West Indies, Jamaica; $1,900 to observe teaching of preventive medicine and industrial physiology in the United States

OTHER

Sum of $2,000 for fund for grants of small amounts for equipment, consumable supplies, travel, and miscellaneous purposes, allotted under the supervision of the Director of the Division

DIVISION OF
NATURAL SCIENCES AND AGRICULTURE

DIVISION OF NATURAL SCIENCES AND AGRICULTURE

Staff during 1952

Director
Warren Weaver

Deputy Director for Agriculture
J. G. Harrar

Associate Director
Harry M. Miller, Jr.

Assistant Directors
John J. McKelvey, Jr.[1]
Gerard R. Pomerat

Assistant Administrator for Agriculture
Kenneth Wernimont[2]

Consultant
W. F. Loomis

Agricultural Programs

BOARD OF CONSULTANTS FOR AGRICULTURE
E. C. Stakman, *Chairman*

G. Bohstedt[3]
Richard Bradfield
Paul C. Mangelsdorf
E. C. Young[3]

Staff: Program in Mexico
Edwin J. Wellhausen, *Local Director*

Douglas Barnes
Norman E. Borlaug
G. Mallory Boush[4]
John W. Gibler
Reggie J. Laird[5]
John J. McKelvey, Jr.[5]
John S. Niederhauser
Dorothy Parker
Jesse P. Perry, Jr.
John B. Pitner
Ralph W. Richardson, Jr.
Robert F. Ruppel[7]
L. Sterling Wortman, Jr.
William D. Yerkes[5]

Staff: Program in Colombia
Lewis M. Roberts, *Local Director*

Guy B. Baird[8]
Ulysses J. Grant
Lee E. Heidrick[5]
Joseph A. Rupert
Robert F. Ruppel[5]
Robert L. Skiles[8]

[1] Appointment effective July 1, 1952.
[2] Appointment effective June 1, 1952.
[3] Appointment effective January 18, 1952.
[4] Appointment effective April 1, 1952.
[5] Appointment effective September 1, 1952.
[6] Transferred to New York office July 1, 1952.
[7] Appointment effective April 1, 1952; transferred to Colombia September 1, 1952.
[8] Appointment effective November 1, 1952.

DIVISION OF NATURAL SCIENCES AND AGRICULTURE

DIVISION OF NATURAL SCIENCES AND AGRICULTURE

OF the 63 appropriations made by the Division of Natural Sciences and Agriculture in 1952, 39 supported work in the field of experimental biology. Totaling $1,666,800, these grants ranged in size from $1,800 for technical assistance at the University of Cambridge to an outright grant of $500,000 for biological research at the Massachusetts Institute of Technology.

The Rockefeller Foundation has recently become deeply interested in agriculture, primarily because of a desire to contribute in some modest way to the world-wide problem of the contest between population and food. Agriculture bears somewhat the same relation to biology that engineering does to physics. It is the application of the facts of the basic science. Thus the inclusion of agriculture in a program devoted to biology is a natural and logical step. For the support of agricultural activities in 1952, the division appropriated $1,314,350. This sum implements last year's decision to increase support of projects in this field.

The Foundation is particularly interested in agricultural projects in Latin America. The 1952 total

includes three appropriations amounting to $246,900 for the Mexican and Colombian Agricultural Programs, as well as two small grants for administrative purposes. This year, for the first time, the field service expenses connected with the operating programs have been grouped in a separate appropriation, in the amount of $343,700 for expenditure in 1953. There were two other agricultural grants to Mexico and Colombia, and ten appropriations for agricultural work elsewhere.

In addition to projects included in the two principal phases of its program, the Division of Natural Sciences and Agriculture made four grants for special projects. Toward equipment for a new biological laboratory at the Institute of Biology and Technological Research, Curitiba, Brazil, the sum of $40,000 was appropriated; for general support of the White Mountain Research Station, the University of California was given $36,000; for the Institute for the Unity of Science, the American Academy of Arts and Sciences received $15,000; and for the expenses of delegates to a series of scientific colloquia, the Centre National de la Recherche Scientifique was granted $40,000. The total expended for these special projects was therefore $131,000.

For fellowships to be administered by the division in 1953, the sum of $300,000 was appropriated, and for divisional grants in aid during the coming year, $450,000 was made available. Including these figures, the 1952 appropriations of the Division of Natural Sciences and Agriculture totaled $3,862,150.

EXPERIMENTAL BIOLOGY

Genetics

UNIVERSITY OF LUND

Genetics and Plant Breeding

In line with the current interests of the Division of Natural Sciences and Agriculture, a three-year grant of $40,000 was made to the University of Lund, Sweden, in support of the Institute of Genetics there. The program, under the direction of Professor Arne Müntzing, is one of genetics as applied to agriculture. For more than a decade the institute has been a leading European center for the study of chromosome behavior and plant breeding; Professor Müntzing has learned how to control and adapt the mechanism of inheritance for the selection and improvement of many essential food crops. A series of published papers, numbering almost 400, has included the study of segregation in corn, wheat, barley, and other grains.

Among the present activities at the Institute of Genetics are studies on the effects of inbreeding and work on crosses between wheat and rye, the first such cross having been released to Swedish farmers in the fall of 1951. Most of the research is focused on the cytologic and genetic behavior of crop plants, but there has been increasing emphasis on problems of animal and human genetics. For example, studies have been made on hybrid vigor and sterility in

bulls, and on the origin and genetic interpretation of several inherited abnormalities in man.

The institute serves also as a training center for young foreign scientists. This aspect of the program will be further developed now that the group is housed in its new enlarged quarters. The Foundation's grant will be used mainly for the salaries of additional technical personnel, with about a third designated for equipment and research expenses.

PURDUE UNIVERSITY

Applied Genetics

The problem of increasing the egg production of hens is being approached in an unusual way by workers at Purdue University, Lafayette, Indiana. Fruit flies, not chickens, are being used to gather the basic information needed for improving yield. Not only are *Drosophila* inexpensive and easy to raise, but they produce 25 generations within a single year, making it possible to obtain experimental results with much greater rapidity than if chickens directly were used as subjects.

Of particular interest is the phenomenon of heterosis, or hybrid vigor, as it is popularly known. If a particular variety of corn, for example, is "selfed" — that is, if the pollen from a given plant is used to fertilize the same plant — the variety tends to decrease in size and vigor in successive generations as its genetic constitution becomes more and more pure. If two such inbred lines are crossed to produce a single cross, and if this single cross is bred with a different single cross to produce a hybrid double cross, suddenly and dramatically there appears a great gain

in uniformity, size, and yield. This effect has been exploited for a few plant crops, but the underlying mechanisms have never been completely understood; potential applications to other crops and to animal breeding have been handicapped by this lack of knowledge.

The program at Purdue, sponsored by the United States Department of Agriculture and under the direction of Professor Don C. Warren, is attempting to elucidate these mechanisms so that they may be applied to chicken breeding. If something like hybrid vigor can be attained systematically with both the size and the quantity of egg production, the effect on the poultry industry should be marked. These two quantitative characteristics differ markedly in their inheritability, however: egg production is low in heritability and shows considerable heterosis in crosses, whereas egg size is relatively high in heritability and seldom shows heterosis. The research now in progress at Purdue aims at determining the predictability of these factors prior to inbreeding. Geneticists and agriculturists throughout the country will be watching the results with great interest.

A three-year Foundation grant was made in 1949 to support this program, and a 1952 grant of $22,500, again for three years, will be used largely for technical assistance.

SMITH COLLEGE

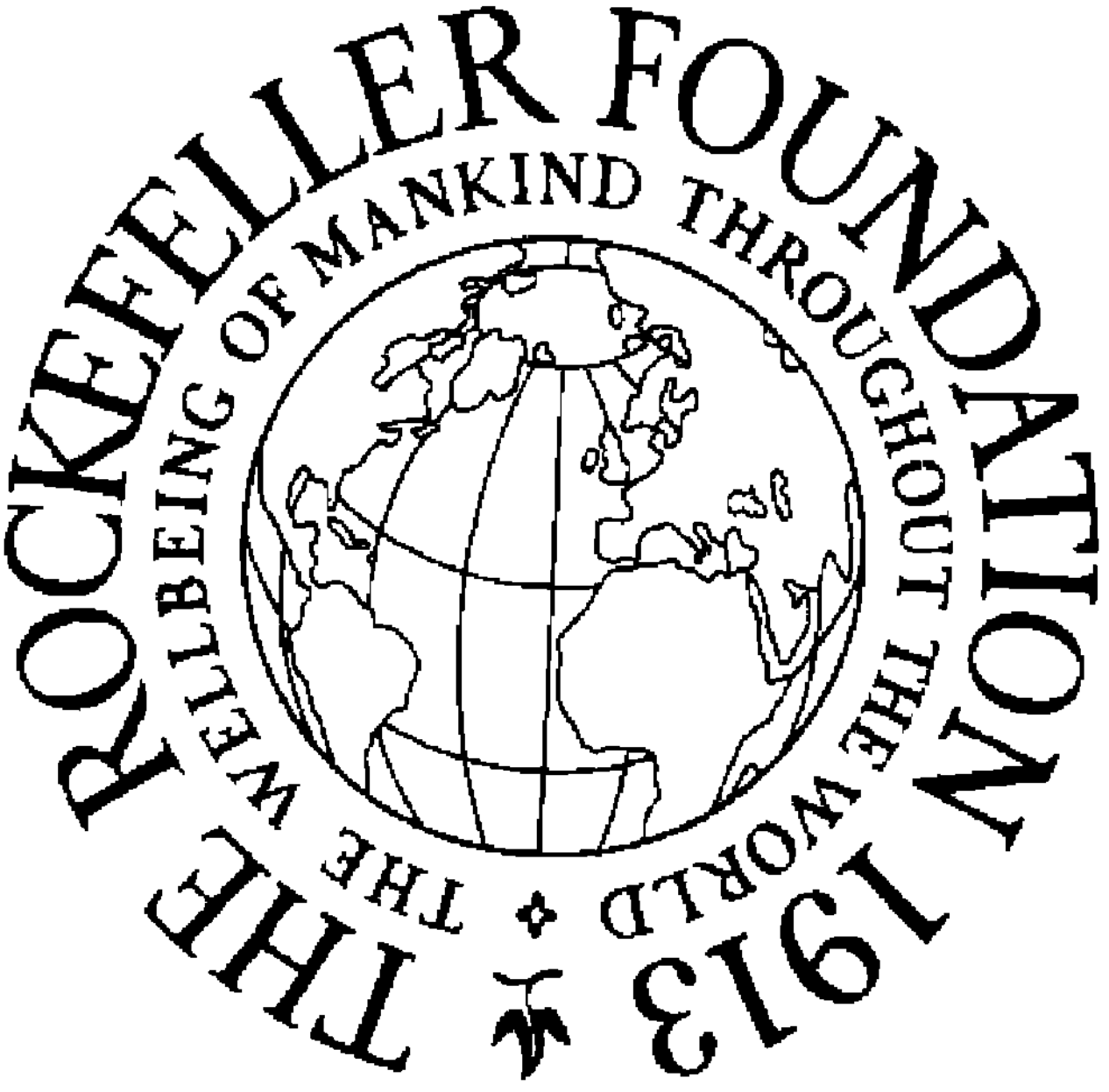
Genetics Experiment Station

After his retirement from the Carnegie Institution of Washington in 1942, Professor Albert F. Blakeslee

established the Genetics Experiment Station at Smith College, Northampton, Massachusetts. Here, aided by Rockefeller Foundation funds, he has been active in both instruction and research. The Foundation this year is continuing its collaboration with a grant of $9,000 for a 12-month period.

The program of instruction at the station is largely one of apprenticeship, offering students an opportunity to learn through doing. This chance to become familiar with modern methods and ideals of experimental research in the field of biology is open mainly to students at the graduate level, although a few qualified seniors also participate. Research activities at the station have been concerned for the most part with *Datura*, a plant genus including the common Jimson weed. As one phase of the broader research on crossability among the ten species of the genus, the Jimson weed has been used to study the effect on crossability of doubled chromosome numbers. Such problems as the evolution of chromosomes, the relationship between genes and virus particles, the origin of generative tissue, and the effect of extra chromosomes on plant structure and morphology are also being investigated.

The Genetics Experiment Station maintains close relations with the neighboring colleges of Amherst and Mount Holyoke, and with the University of Massachusetts; four-college genetics conferences meet at least once a year in each institution, and a day's biological trip is arranged every fall. A four-college



Photograph Excised Here

The new Biochemistry and Virus Laboratory, University of California
inserting a specimen in the electron microscope

Photograph Excised Here

Using the spectrometer to investigate protein structure at the Brooklyn Polytechnic Institute, New York

Photograph Excised Here

Sedimentation studies protein molecules, Yale University: placing rotor in vacuum chamber of ultracentrifuge

research conference on growth and development has also been organized, at which the investigations of those actively engaged in research in that field are reported and discussed.

Proteins and Amino Acids

UNIVERSITY OF OXFORD

Training in X-ray Crystallography

Although an exacting and precise science, X-ray crystallography is also something of an art, and instruction in its techniques can be likened to an apprenticeship. The number of gifted pupils is small and the period of their training long. One of the few laboratories where students may receive the appropriate preparation is that of Dorothy Crowfoot Hodgkin, a former Rockefeller Foundation fellow now at the University of Oxford, England. Mrs. Hodgkin has trained a number of competent crystallographers who have gone on to work in laboratories throughout the world; at the same time she has made significant contributions of her own to the theory and methodology of this field. She has continued her analyses of the structure of such complex crystalline substances as penicillin, aureomycin, and vitamin B_{12}.

The Rockefeller Foundation has supported Mrs. Hodgkin's work since 1940 and this year has provided $5,400 over a three-year period toward the stipend of an in-training student.

POLYTECHNIC INSTITUTE OF BROOKLYN

Determination of Protein Structure

Despite the extraordinary advances of present-day scientific research, the structure of even a single type of protein molecule has thus far eluded determination. Many methods of attack have been used, including the techniques of X-ray crystallography. A long-range study along these lines is currently being made at the Polytechnic Institute of Brooklyn, New York, under the direction of David Harker. The Rockefeller Foundation in 1950 made a four-year grant of $136,115 in support of this laboratory, and, in accordance with a policy of "forward financing," both last year and this year appropriated $32,500 to the institute, the 1952 sum to be available during the year beginning July 1, 1955.

The protein structure project at the Polytechnic Institute comprises three main categories of activity. The first relates to the design and construction of improved apparatus with which to obtain precise X-ray diffraction data from a single crystal of protein. Mr. Harker is not using photographic recording techniques, as is almost universally the case elsewhere, but is developing a Geiger-counter spectrometer which will require irradiation of the experimental crystal by X rays for only about 10 seconds for each reflection, or a maximum of approximately 28 hours for a crystal giving 10,000 reflections. This represents a considerable difference from the several hundred hours of X-ray exposure necessary to obtain

the equivalent data by photographic methods, a significant fact because there is strong evidence that long irradiation by X rays has a deleterious effect on certain protein crystals.

The second main feature of Mr. Harker's program is the preparation of single crystals of protein large enough to furnish satisfactory X-ray reflections. Researchers usually have been forced to use crystals of very small size, which frequently prove unstable. In Mr. Harker's laboratory it has recently been found possible to grow ribonuclease crystals of satisfactory dimensions from a mixture of normal propyl alcohol and water, and it is planned to use these for X-ray diffraction specimens. Suitable crystals are also being procured from other laboratories, and some have already been utilized in obtaining diffraction data.

The third main branch of the work concerns the interpretation of the data observed, and the extensive calculations involved in working out structures consistent with this data. The Harker group has access to the computing facilities of the International Business Machines Corporation and has devised methods for carrying out the various types of computations required. As described in last year's Annual Report of The Rockefeller Foundation, because of the complexity of the giant protein molecules, atomic groupings — or "globs" — rather than single atoms are considered as the scattering entities responsible for X-ray diffraction. This hypothesis has been tested on information received from other experimenters and has proved satisfactory; within the next year it

will be applied to the more accurate data anticipated as a result of the refined methodology developed in Mr. Harker's own laboratory.

UNIVERSITY OF CAMBRIDGE

X-ray Crystallography

Another laboratory where outstanding efforts are being made to establish the structure of a protein is that of Sir Lawrence Bragg of the Cavendish Laboratory at the University of Cambridge, England. By using X-ray crystallographic evidence, he hopes to learn how such a universally important substance can be fashioned from some 20 amino acids.

The project involves a re-examination of data obtained by Sir Lawrence's associate, Dr. Max Perutz, in his previous studies of hemoglobin. The Rockefeller Foundation, which has had an interest in this research since 1939, this year provided $1,800 (£600) to enable Sir Lawrence to procure the services of a crystallographer who will assist him in the detailed calculations involved.

NORTHWESTERN UNIVERSITY

Biochemistry of Proteins

One of the important aspects of protein chemistry is the study of how ions, or small electrically charged atomic groups, attach themselves to the external surface of relatively huge globular proteins such as albumin or the blood globulins. A group at Northwestern University, Evanston, Illinois, under Professor I. M. Klotz, is investigating the interactions of organic and metallic ions with specifically modified

proteins. Such proteins have made possible an examination of the effects of changes in electrostatic character, as well as of the introduction of known side chains, on the ability of these macromolecules to form complexes with small molecules. Studies of the binding of isomeric organic molecules to a protein are also aiding in determinations of distances between side chains on a protein.

Professor Klotz proposes to extend his investigations to a larger number of chemically modified proteins and to pursue in particular the leads obtained from the studies with isomeric organic molecules. The ultimate goal, toward which promising leads have been found, is to establish a method for determining the surface configuration of proteins. The Foundation's grant of $28,500 this year renews 1949 support of this objective for another three years.

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

Physical Chemistry of Protein Solutions

Another study aimed at filling out our knowledge of the chemical interactions between giant protein molecules and smaller nonprotein molecules, or between two kinds of proteins, is that under Professor George Scatchard of the Department of Chemistry at the Massachusetts Institute of Technology. For seven years he has been studying the purest protein known — serum albumin — with the methods of orthodox physical chemistry. Specifically, he has been interested in the affinity of this protein for chloride and thiocyanate ions in solution. By studying

the specificity of typical protein reactions, further understanding can be anticipated of such related problems as the reactions of hemoglobin with oxygen, of antigens with antibodies, and of enzymes with their substrates.

Foundation support this year renews aid that was given Professor Scatchard in 1945. The current appropriation, for $40,000 over a four-year period, will further work on osmotic pressure, light scattering, and the binding of small ions, as well as aid the important protein investigations.

YALE UNIVERSITY

Physical Chemistry of Proteins

Professor John G. Kirkwood was recently called to Yale University to head the Department of Chemistry there and to develop a significant research program in the physical chemistry of proteins. His interests focus on the fractionation of blood proteins, on the isolation of antibodies and their distribution in serum proteins, and on the forces between protein molecules. Specifically, Professor Kirkwood plans to explore further applications of the technique of electrophoresis-convection and of his own technique of diffusion-convection. Ultracentrifugal, electrophoretic, and light scattering methods are also being utilized in these studies.

Toward this broad program of research in protein chemistry, The Rockefeller Foundation has made a long-term grant of $100,000. Approximately $30,000 is available as needed for initial equipment, with the

remainder for expenditure at an average level of $10,000 per year for seven years.

KAROLINSKA INSTITUTE

Morphological Studies

Professor Einar Hammarsten of the Institute of Chemistry at the Karolinska Institute, Stockholm, Sweden, has long studied the chemistry of nucleic acids and has been able to show a strong correlation between the synthesis of proteins and the synthesis of polynucleotides. His conclusions are based on results obtained from experiments with rats, with yeasts and various fungi, and with bacteria.

At the beginning of Professor Hammarsten's studies on bacterial growth, for which he uses isotope techniques, the cytologic changes in the growing tissues were only superficially followed with morphologic methods. It soon became apparent, however, that a closer study was essential for determining nuclear activities in relation to nucleic acid synthesis. In fact, the biological examinations are so closely integrated with the chemical work that Professor Hammarsten does not think it feasible to send his material to special institutions for morphologic analysis. He has therefore set up a section of morphology and cytology in his own institute to give his group a chance to make detailed histological and microbiological examinations of the tissues and organisms which they are studying biochemically. Toward the purchase of equipment for this new section, The Rockefeller Foundation is supplementing its

1947 aid to the Institute of Chemistry with a new grant of $5,000 for the coming year.

UNIVERSITY OF PITTSBURGH

Chemistry of Amino Acids

One of the most difficult, yet potentially most productive, lines of biochemical research is that in which the chemist attempts to synthesize or duplicate the products of the living organism. Professor Klaus Hofmann of the University of Pittsburgh, a former Rockefeller Foundation fellow, has long been a specialist in this type of work.

Professor Hofmann has been investigating the structure of protein molecules by studying the aggregations of amino acids from which they are constituted. The comparatively simple molecules formed by the condensation of two or more amino acids are known as peptides, which are a sort of intermediary stage between the amino acids and the proteins. The exact structure of some of these peptides is known; Professor Hofmann is hoping to work from these to the more complex polypeptides, then to the precise structure of the immensely larger protein molecules. He is interested in relating the chemical structure of such compounds to their biological role in both microorganisms and higher animals. He is also following this relationship with the new type of fatty acid, containing the cyclopropane ring, which he recently discovered.

To help accelerate the studies under Professor Hofmann, The Rockefeller Foundation has continued

its aid to the University of Pittsburgh with a three-year grant of $19,000. This money will contribute to the salaries of several research assistants, as well as to the purchase of additional equipment needed in the laboratory.

UNIVERSITY OF CALIFORNIA

Metabolism of Amino Acids

In the course of previous aid given by The Rockefeller Foundation to the program of Professor David M. Greenberg, chairman of the Division of Biochemistry in the University of California's medical school, the metabolism of amino acids as they are utilized in the body has been intensively studied. A combination of column chromatography and isotopic tracer methods has yielded a powerful tool for the study of amino acid metabolism both in the intact animal and in isolated tissue preparations. Unexpected results have been obtained, with interesting metabolic implications which bear further investigation and analysis.

The problem of the in vitro biosynthesis of proteins is also being studied in Professor Greenberg's laboratory. Recently, protein synthesis has been accomplished from amino acids with centrifugally isolated mitochondria; this is a distinct step toward obtaining such synthesis on a strictly enzyme level.

The Rockefeller Foundation, which has supported Professor Greenberg's research since 1936, this year provided $15,000 for general expenses during the coming three years.

Biochemical Research

COLUMBIA UNIVERSITY

Department of Biochemistry

The Department of Biochemistry at Columbia University comprises a number of research workers pursuing independent investigations. With all the diversity, however, there is an over-all unity and an interweaving of the various threads of research.

In the years since 1934 The Rockefeller Foundation has provided a total of $316,500 to Columbia University for the research of individual investigators in the field of biochemistry. This year it was decided to consolidate support by appropriating one sum, to be allocated annually by the chairman, for use of the entire department. Covering a five-year period, this grant is in the amount of $111,250 and will be available for research expenses of any of the workers in the department.

In addition to the new appropriation, the unexpended balances of two current grants will be absorbed into the general fund; aid will be continued to Professor Erwin Chargaff, for whom $5,000 of the combined sum is specifically to be available for equipment, and to Professor Zacharias Dische. The former is working on one of the key problems of cellular biochemistry: the role of the nucleic acids in cell division and growth and in the transmission of hereditary properties. Professor Dische's related research is concerned with the enzyme systems which convert the six-carbon sugars that the cell uses as fuel

into the five-carbon sugars that the cell uses to build up nucleic acids. Support to Professor David Shemin, which extended from 1950 to 1952, will also be renewed under the combined grant. Professor Shemin is working with radioactive isotopes of carbon to chart the detailed mechanism of the biosynthesis of heme, the functional component of hemoglobin.

UNIVERSITY OF CALIFORNIA

Biochemistry and Virus Laboratory

Early in October, a new building on the Berkeley campus of the University of California was dedicated to the cause of waging all-out war against the viruses of plant, animal, and human disease. This modern Biochemistry and Virus Laboratory houses a staff of 60, which includes several outstanding biochemists. Directing the research is Dr. Wendell M. Stanley, formerly of the Rockefeller Institute for Medical Research and a Nobel Prize winner in 1946 for his work on the isolation and crystallization of the tobacco mosaic virus.

Research activities of the staff cover many fundamental aspects of the biochemistry of animals, plants, and microorganisms. Special attention is given to the modes of reproduction and mutation of viruses, since these may be illustrative of the basic evolutionary process of all living things and of the nature of life itself. Such studies may also provide valuable information on specific virus diseases and approaches to effective vaccines and chemotherapy.

A method has recently been developed whereby both viruses and human tissue can be grown in test tubes. It is planned to culture bits of human tissue

at the laboratory in quantity sufficient for the extensive virus experimentation. This work may throw light on diseases such as poliomyelitis, encephalitis, and influenza.

Extensive facilities are available in the new laboratory, including isolation units for the study of dangerous viruses. The building itself was constructed with $1,715,000 voted by the legislature of the State of California. Equipment was provided largely from funds contributed by the University of California, the Lederle Laboratories of the American Cyanamid Company, the National Foundation for Infantile Paralysis, and The Rockefeller Foundation. The Foundation appropriated $100,000 for this purpose in 1948 and this year made a further grant of $50,000 for the purchase during the next two years of specialized equipment, such as an infrared spectrophotometer and a refrigerated centrifuge.

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

Gordon Research Conferences

The Gordon Research Conferences are annual summer symposia sponsored by the American Association for the Advancement of Science. Held in two New Hampshire schools, Colby Junior College in New London and the New Hampton School in New Hampton, the meetings provide informal but intensive discussion of the topics under consideration. Each conference of the series lasts about a week; from August 11 to 15, 1952, for example, vitamins and metabolism were being discussed at New London,

while the theme of the meeting at New Hampton was analytical chemistry.

The Rockefeller Foundation's role in these conferences for the past three summers has been that of supporting visits by foreign scientists to meetings the subject matter of which is in line with Foundation interests in biochemistry. This summer, under a 1952 three-year appropriation of $25,000, such men as Professor Alexander Todd of the University of Cambridge, Professor R. A. Morton of the University of Liverpool, and Dr. C. C. Ungley of the Royal Victoria Hospital, Newcastle-upon-Tyne, were invited to the conference on vitamins and metabolism; Professors E. R. H. Jones and H. B. Henbest of the University of Manchester and Professor W. Klyne of the University of London were invited to the conference on steroid chemistry; and Professor Georgiana M. Bonser of the University of Leeds was invited to the conference on cancer. Professor W. George Parks of the University of Rhode Island is director of the conferences, and Professor Herman Mark of the Polytechnic Institute of Brooklyn has served as chairman of the management committee.

HASKINS LABORATORIES

Protozoological Chemistry

Aided by a 1950 Rockefeller Foundation grant, Dr. S. H. Hutner and his associates have been continuing for the past two years their program of microbiological research at the Haskins Laboratories in New York. Dr. Hutner is making a quantitative study of the nutritional and growth requirements of various

Protista, or one-celled organisms, with the intent of finding as many ways as possible in which these organisms can be useful to the solution of modern biochemical problems. In addition to studies of trace metal demands by living cells, this work involves the problem of tissue culture on known media. By using a series of microorganisms with increasingly complex nutritional requirements, Dr. Hutner hopes to make a systematic, step-by-step approach, rather than an empirical attack, on the complicated problems of culturing mammalian cells.

Another promising application of work with protozoa is in methods of biological analysis; protozoa differ from bacteria in that they are able to eat large particles and break them down inside their own walls, and thus can serve as indicators of the "combined" as well as the "free" forms of certain compounds. In a broader sense, then, there is promise of gaining practical information concerning paths of metabolism in higher organisms, including the mammals and man. For example, an unexpected tool for studying steroid mechanisms has been discovered in a marine microorganism known as *Labyrinthula*, which has been proved to require cholesterol or certain plant steroids as a vitamin. By growing mass cultures of this organism in simple media and feeding it radioactively labeled substances, the prospect is opened for the first time for studying directly the metabolic role of the steroids.

The Haskins Laboratories, where these studies are in progress, is a private, nonprofit research laboratory. Several undergraduate and postgraduate students

participate in the program, and close collaboration is maintained with a number of other groups working in the same field. In continuing support of this research and training activity, The Rockefeller Foundation has provided $20,000 for the next two years.

COLUMBIA UNIVERSITY

Bibliography of Tissue Culture

Under the sponsorship of the Tissue Culture Association, a bibliography of references dealing with the living cell cultivated in vitro is nearing completion after four years of intensive effort. The work, directed by Dr. Margaret Murray of the Columbia University College of Physicians and Surgeons, has involved the compilation of some 17,000 references, spanning a period of 50 years and scattered through publications in many languages. This large and widely dispersed literature has never been properly indexed, partly because the papers involved often give no clue in their title that they are concerned with the culture of cells or organs in vitro. The rapidity of recent developments in the natural sciences and the increasing overlap of the various specialties have helped make it impossible for the usual abstracting or indexing services adequately to catalog this particular body of material.

The production of the two-volume *Bibliography of the Research in Tissue Culture, 1900–1950* will be handled through the printing office at Columbia. Any profits which may accrue from its sale will be used to issue supplements at intervals of five to ten

years. The preparation of the original work was subsidized by a number of independent groups, and sizable contributions toward the publication costs have been received from various sources. To complete the fund necessary for the publication of what will undoubtedly prove a valuable research tool, the Foundation has appropriated $20,000 for the next two years.

UNIVERSITY OF AARHUS

Research in Biochemistry

Research in the Biochemical Institute of the University of Aarhus, Denmark, centers on what Professor Fritz Schønheyder, its director, and others have described as the "metabolic pool": that supply mixture of compounds, derived either from the diet or from the breakdown of tissues, on which an animal draws for the synthesis of tissue constituents. By plotting the rate of excretion of tagged nitrogen from the animal, it has been possible to evaluate the rate of utilization of nitrogen in the compound fed, and also the magnitude of the metabolic pool. Professor Schønheyder now intends to study physiological influences and endocrine disturbances in terms of their effect on the rate of protein synthesis. He hopes particularly to elucidate the state of protein disequilibrium caused by prolonged confinement due to disease.

The recent installation of a mass spectrometer in the university Department of Physics has resulted in close collaboration between men in the two laboratories; they have been preparing and analyzing isotope-labeled compounds for use in just such studies

of the metabolic pool. Additional investigations will be carried out on the role of glutamic acid and its amide in the utilization and transfer of ammonia, and on the speed of enzymatic breakdown of fatty acids. The Rockefeller Foundation's five-year grant of $10,000 will help defray expenses of the isotope research.

NATIONAL UNIVERSITY OF MEXICO

Institute of Chemistry

The research program of the Institute of Chemistry at the National University of Mexico, Mexico, D. F., includes work on steroids, studies of essential oils and pharmacologically active compounds isolated from Mexican plants, and some fields of pure chemistry. The present staff, under the leadership of Dr. Fernando Orozco and Dr. Alberto Sandoval, numbers 17; they have published over 35 papers, most of them in leading United States journals.

In the fall of 1953 the institute expects to move into new quarters in the 14-story research laboratory building now nearing completion in the University City. There will be space on the institute's two floors for a team of 75 investigators. Basic equipment has already been procured, and the institute's most pressing needs now are for research apparatus and supplies. The Rockefeller Foundation has appropriated the sum of $50,000, to be available as follows: $35,000 for the purchase of equipment and supplies during the period ending June 30, 1954; and $15,000 for research expenses for the first three years after the institute has been moved into the new building. The current

grant supplements modest Foundation assistance given the institute since 1941.

UNIVERSITY OF COPENHAGEN

Biochemical Studies

Dr. Herman M. Kalckar, twice a Rockefeller Foundation fellow, is director of the Institute of Cytophysiology at the University of Copenhagen, Denmark. He and his colleagues are investigating the enzymes of nucleoside metabolism, nucleic acid formation in growing organisms, the biochemistry of virus multiplication, and purine metabolism. The institute, while relatively small, has maintained a high level of research and fostered an international atmosphere by inviting a substantial number of foreign scientists to further their work as guests in the laboratory.

In 1949 Dr. Kalckar was one of four beneficiaries of Foundation aid to the University of Copenhagen. This year his program is supported for another three years with a grant of $9,000.

UNIVERSITY OF UPPSALA

Biochemical Institute

In 1949 The Rockefeller Foundation made a grant of $100,000 to aid in equipping the new Biochemical Institute at the University of Uppsala, Sweden. In the three years which have elapsed since that time, the work of Professor Arne Tiselius and his colleagues in developing exact methods for the fractionation of organic substances has shown remarkable progress.

Photograph Excised Here

The Enzyme Research Institute, University of Wisconsin

Cloud chamber at the lower laboratory of the White Mountain Research Station, California; altitude is over 10,000 feet

Photograph Excised Here

Photograph Excised Here

Summit of White Mountain Peak, site of a new high altitude laboratory of the White Mountain Research Station administered by the University of California

A marine expedition from the Scripps Institution of Oceanography

Photograph Excised Here

During the five years of the Foundation's new grant, the perfection of even more sensitive techniques of electrophoretic, chromatographic, centrifugal, and dispersion analysis will continue to receive careful attention. The $50,000 made available to the institute is designated chiefly for the salaries of several research assistants, as well as for minor equipment and consumable supplies.

Professor Tiselius, a former Rockefeller Foundation fellow and the 1948 Nobel Laureate in Chemistry, is conducting experiments in the following fields: the action of biologically active peptides, particularly those with hormone, growth, or antibiotic effects, including substances on the borderline between proteins and peptides; the use of zone electrophoresis and chromatographic methods for the isolation and characterization of peptides, polypeptides, protein fragments, and proteins; the biosynthesis of reserve proteins in seeds; the chemistry of muscle, especially of the prosthetic group of actin; enzyme activation by metals; the chemistry of bacteria and viruses; and the determination of cytochemical structure by the method of successive dispersion analysis of cells and tissues.

UNIVERSITY OF LONDON

Organic Chemistry

The sum of $15,000 was appropriated by The Rockefeller Foundation to the University of London for five-year support of research on the organic chemistry of biologically important molecules. This

program is under the direction of Professor R. P. Linstead in the Organic Chemistry Department of the Imperial College of Science and Technology.

This laboratory has been referred to as the birthplace of aromatic chemistry, and workers there helped to found the theory of valency. It has developed into a school distinguished for the training of many leaders of British chemistry. In fact, seven of the 25 holders of the Meldola Medal (which is given annually for promising research by British chemists under the age of 30) are present or former members of the department.

Current work in the department, much of which has far-reaching biological significance, includes studies on photosynthesis, chemotherapy, the synthesis and behavior of porphyrin pigments, the chemistry of unsaturated fatty acids, the organic chemistry of phosphorus, the influence of structure on the action of enzymes on various substrates, and the polymerization and cross-linking of certain polypeptides.

Studies of Enzyme Action

UNIVERSITY OF WISCONSIN

Enzyme Chemistry

In 1948 The Rockefeller Foundation provided $100,000 toward the costs of equipping the new Enzyme Institute at the University of Wisconsin. The variety of centrifuges, colorimeters, spectrophotometers, polarimeters, and refractometers at present available there makes the Wisconsin institute

one of the most completely outfitted enzyme laboratories in the country.

That portion of the institute which is under the direction of Professor David E. Green is concentrating on a long-range program of isolation and study of the enzymes of intermediary metabolism. In the course of his work, Professor Green has found it effective to have a few outstanding postdoctoral fellows stay at the institute for a period of three to five years. These men independently select their areas of investigation and are assigned postdoctoral fellows and other technical assistants.

To implement and stabilize this program, and to increase the effectiveness of the fellowship training given at the institute, the University of Wisconsin is creating two staff positions of the rank of assistant professor. The Rockefeller Foundation is collaborating by means of a tapering grant of $33,000 over a period of four years. The university has agreed to accept the continuing responsibility for the posts.

COLUMBIA UNIVERSITY

Transport Mechanisms

A Welch fellow, Dr. John V. Taggart at the College of Physicians and Surgeons at Columbia University combines a classical training in medicine and physiology with the newer techniques and insights of cellular chemistry. During the four years in which the Foundation has provided aid, Dr. Taggart and his co-workers in the Department of Medicine have made solid progress in applying the techniques of

enzyme chemistry to the multiple problems of renal physiology.

Dr. Taggart's present research program is concerned with the metabolic activity of kidney tubule cells, a process which underlies the active transport of substances in either a secretory or a reabsorptive direction. All cells depend on active transport processes to ensure the steady supply of nutrient substances, the removal of metabolic waste products, and thus the maintenance of the normal intracellular environment. The kidney represents an unusually favorable organ for study because of the high degree of development and diversity of its transport mechanisms and because precise physiological techniques permit quantitative appraisal of these processes in the intact animal. It is hoped that the description of one or more of the renal transport systems in biochemical terms will provide useful models for the study of cellular transport in other organisms.

The Rockefeller Foundation this year made a grant of $20,000 to Columbia University to continue support of Dr. Taggart's program during the next three years.

MASSACHUSETTS GENERAL HOSPITAL

Enzyme Research

Early in 1952 The Rockefeller Foundation made a seven-year grant of $70,000 to the Massachusetts General Hospital in Boston to continue its support of work under Dr. Fritz Lipmann. Dr. Lipmann and his co-workers are studying energy utilization in the body, particularly the mechanism of acetic acid metabolism in cellular reactions and its role in de-

toxification. Of special interest are the functions of pantothenic acid in intermediary metabolism and the enzyme systems concerned with the acetylation of such substances as choline and sulfanilamide.

As reported in the 1951 Annual Report of The Rockefeller Foundation, an appropriation of $21,310 was made to provide equipment for the Spectroscopic Laboratory at the hospital. The apparatus will aid Dr. Lipmann, also, for his project is housed in the new research building where the laboratory is located.

UNIVERSITY OF UTAH

Proteolytic Enzymes

Foundation support in the field of enzyme chemistry was extended for the first time this year to the program of Professor Emil L. Smith at the University of Utah, Salt Lake City. Professor Smith is one of the leading workers in those aspects of enzyme chemistry which relate to the breakdown and synthesis, within the body, of peptides and proteins.

Several years ago a theory was formulated regarding metal-activated peptidases. This theory assumes that a specific metal ion forms a coordination complex between the substrate and the protein. Coordination occurs between certain polar or ionic groups of the substrate and the metal. In this way it is possible to explain the requirement for certain groupings in the substrate and to show that much of what has been called specificity can be described in detailed chemical terms.

A homogeneous preparation of one of these enzymes would permit a definitive study of the mode of action of the enzyme and further testing of the theory.

For the five-year period covered by the Foundation grant, Professor Smith therefore proposes to concentrate his efforts on the purification of leucine aminopeptidase, prolinase, prolidase, and possibly certain other enzymes which reduce peptides. He has worked out new methods which permit him to obtain these enzymes from animal tissues in much more highly purified form than has been possible heretofore. These techniques will be used to obtain protein preparations that are homogeneous by the usual physical criteria. Once such a homogeneous peptidase is available, it will be used to study the interaction of the particular metal ion, manganese, with this protein, and to carry out a detailed investigation of the kinetics and specificity of the enzyme with synthetic peptides as substrates.

Since Professor Smith has adequate laboratory facilities at his disposal, the Foundation's grant of $30,000 will be used in its entirety to provide technical assistance.

Physiological Investigations

HARVARD UNIVERSITY

Biochemistry of Vision

In the eye of a mammal the retina is made up of two kinds of end organs, the rods and the cones; the former are active primarily in dim light or night vision, and the latter are the elements mediating daylight, detail, sharp focus, and color vision. The mechanism of rod vision has been largely unraveled, but the chemical substances involved in cone

vision occur in much smaller quantities and are much less stable.

For nearly 20 years Professor George Wald of the Biological Laboratories at Harvard University has been an outstanding contributor to the field of vision biochemistry and physiology. He has made significant investigations on rhodopsin, the carotenoid protein which acts as the light-sensitive element in rod vision, and he is at present making similar studies on iodopsin and the other light-sensitive pigments of cone vision. Progress has been retarded, however, by the extreme rapidity with which iodopsin changes form. A portion of the Foundation's grant of $26,000 is therefore being used for the purchase of a recording spectrophotometer which will make possible more rapid measurement of these transient compounds.

Professor Wald has been studying cone vision in the eye of the chicken. But the chicken retina contains rods as well as cones, and further difficulties arise when the problem of color vision is approached. As a result, a different eye is to be studied, probably that of *Citellus*, the prairie squirrel, which has only cones. Procurement of the new specimens will necessarily involve additional expenditures, so the remainder of the Foundation grant will be available for these and other expenses of the research over a four-year period.

UNIVERSITY OF PITTSBURGH

Pulmonary Physiology

The rate and efficiency of gas exchange in the lungs depend on a number of individual factors. In a normal respiratory system, these factors contribute

their proportionate parts to the total resistance to gas exchange and are adjusted in value during exercise, as well as at rest, to ensure the necessary exchange of oxygen and carbon dioxide between the blood and the atmosphere. When respiration is impaired, one or more of these basic factors may be altered, resulting in a lessened capacity for gas exchange.

To obtain a complete statement of pulmonary capacity, and especially to identify and measure the role of the separate elements in cases of respiratory impairment, a procedure is needed for individually determining the value of each basic factor. Such measurements are needed not only in the study of pulmonary disease but in the evaluation of physical fitness, possibly in the quantitative evaluation of aging, and in analyzing the effects of noxious and irritating gases in the respiratory tract. It is particularly desirable to have pulmonary function tests which are sensitive enough to detect changes in respiratory capacity before sufficient damage has occurred to be revealed by ordinary clinical means.

A number of tests have been developed for the direct or indirect measurement of the individual functional elements, or combinations thereof, but all have some limitation or disadvantage. Professor Theodore Hatch of the Graduate School of Public Health at the University of Pittsburgh has outlined a new method of studying the pulmonary capacity for gas exchange. His proposal is based on the quantitative use of gas laws in a way familiar to the engineer or the physicist but relatively unusual for the physi-

ologist. For the initial research in determining the applicability of this technique to human beings, The Rockefeller Foundation has made a one-year grant of $19,750.

UNIVERSITY OF COPENHAGEN

Muscle Physiology

In the spring of this year a new building was opened at the University of Copenhagen. This edifice houses primarily the Institute of Neurophysiology and more than doubles the research space previously available to Dr. Fritz Buchthal and his co-workers. With these enlarged quarters more equipment is necessarily required, and it is chiefly to meet this need that The Rockefeller Foundation has made a four-year grant of $15,000 to the university.

While the change of location has of course not altered the research program of the institute, it will nevertheless make possible new approaches to its basic studies on the properties of single striated muscle fibers and its correlated investigations on the mechanism of neuromuscular transmission. Work on torsional and longitudinal elasticity, on the minute structure of muscle, and on the electrical response of single fibers will continue; but there will be increasing stress on the biochemistry of muscle function, and on the physical and physiological factors underlying action potentials in nerves. Further research on the influence of measuring electrodes in living tissues will be continued, and greater emphasis placed on work with invertebrate nerve and muscle preparations.

UNIVERSITY OF MUNICH

Physiology of Bees

For many years Professor Karl von Frisch has been studying the physiology and behavior of bees. Since it was necessary to leave his quarters at the University of Munich during the war, Professor von Frisch returned to his native Austria and established himself at the University of Graz. There his research was aided by a 1949 Rockefeller Foundation grant of $25,000 for a period of three years.

Early in 1950 Professor von Frisch returned to Munich. Having recreated his laboratories there, partly in temporary structures, Professor von Frisch is continuing his investigations on animal behavior. He plans to do further research on the language of the bees. It has been established, for example, that different types of bees have different ways of communicating, so that actually bee "dialects" are now to be studied. In addition, there are indications that the language of the bees is not entirely a sign language, but that tones, probably in the supersonic range, play a role in their communications.

Physiologically, it would be interesting to know how bees judge distance. Their dances indicate with remarkable exactness the distance between the hive and the feeding place, but how do the bees estimate this distance? And how do they adjust themselves to the changing position of the sun when they use it as a compass? Apparently they have an excellent memory for time, for they seem to know that the sun at a certain time will occupy a certain place in the heavens.

Related studies by Professor von Frisch and his colleagues concern the histology and crystallography of the insect eye, the physiology of insect organs of smell and the role these play in the constant search for food, and the more general response mechanisms of animals to their environment. Some of this work will be carried on at Munich, some as in the past at Brunnwinkl in Austria, and a few special projects will be pursued on an island in the North Sea where it is easier to isolate experimental animals. To help meet the considerable costs implied by this extensive program, The Rockefeller Foundation in 1952 made another flexible three-year grant of $25,000 to the University of Munich.

General Biology

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

Research in Biology

For many years The Rockefeller Foundation has been interested in the application of the physical sciences to biological problems. Sharp boundaries between biology, physics, and chemistry no longer exist, so that research in any one of these fields often requires considerable training in the others as well.

At the Massachusetts Institute of Technology is located one of the leading centers in the country for research and training in biology in its close relation to the physical sciences. Under the leadership of Professor Francis O. Schmitt, the Department of Biology there has an outstanding program in the utilization of the methodology of physics for the study of molecular biology. The work centers on the investigation of

the structure of tissue components and of biological materials through a wide variety of physical techniques, with special emphasis on electron microscopy.

Until recently the biology department consisted of divisions of general physiology and biophysics. As the department moves into its new three-million-dollar building, a division of biochemistry is being added. The departmental staff includes 11 men who hold professorships of various levels, and annually there are about 20 doctoral and postdoctoral candidates in training. The work is closely integrated with medical activities in the Boston area; doctors trained in biophysical methods at the institute are associated with medicine, surgery, dermatology, and physical medicine at the various hospitals in the vicinity.

The Foundation has supported biological research at the institute over a considerable period. This year the Foundation made an outright grant of $500,000 to the Massachusetts Institute of Technology for this purpose. Both principal and interest will be available for expenses of the research program, and it is expected that these funds will last for 10 or 15 years. Increased support will also be available from the institute.

This particular type of grant recognizes on the one hand the limitations of "project" type grants as well as the inability of the Foundation to provide substantially larger sums for the permanent endowment of work that it wishes to encourage. The type of grant made in this instance appears to have several important advantages:

1) It is flexible as to the use of the money. It permits a man to follow up unexpected leads and to han-

dle unforeseeable desirabilities or emergencies. It does not tie an investigator up to some unhappy promise that he will try to solve some definite "practical" problem.

2) Money not used in one year does not revert to The Rockefeller Foundation, and hence there is none of the indecent temptation to spend money rather than lose it. On the contrary, the whole pressure, under such a grant, is *not* to use it unless necessary. This is the best money the researcher has, and he does not lose it by not spending it.

3) This kind of money, flexible as to purpose and rate, is of the greatest value in smoothing out the eccentricities in the receipt of specified and short-term grants. It makes such other grants more important and useful, just as a relatively small amount of mortar can give stability to a large number of separate bricks, and can permit them to contribute to the formation of a meaningful structure.

4) This kind of money is frequently most useful when it is in fact not spent, for it permits an investigator or a department to undertake an obligation, as, for example, for the next year's stipend for a young man offered a competing job. The obligation may actually be met from a short-term grant whose approval is secured several months after the decision must be made. But in the meantime the program has stability.

MINISTRY OF PUBLIC HEALTH, URUGUAY

Research Institute of Biological Sciences

The Research Institute of Biological Sciences in Montevideo, Uruguay, founded on a modest scale

in 1927 as a laboratory for Professor Clemente Estable, is now widely recognized as an active center of biological investigation. In 1949 the institute moved into a new and specially designed building of its own. Foundation aid that year provided research equipment and expenses to enable a former Foundation fellow to develop work on ultrastructures of cells.

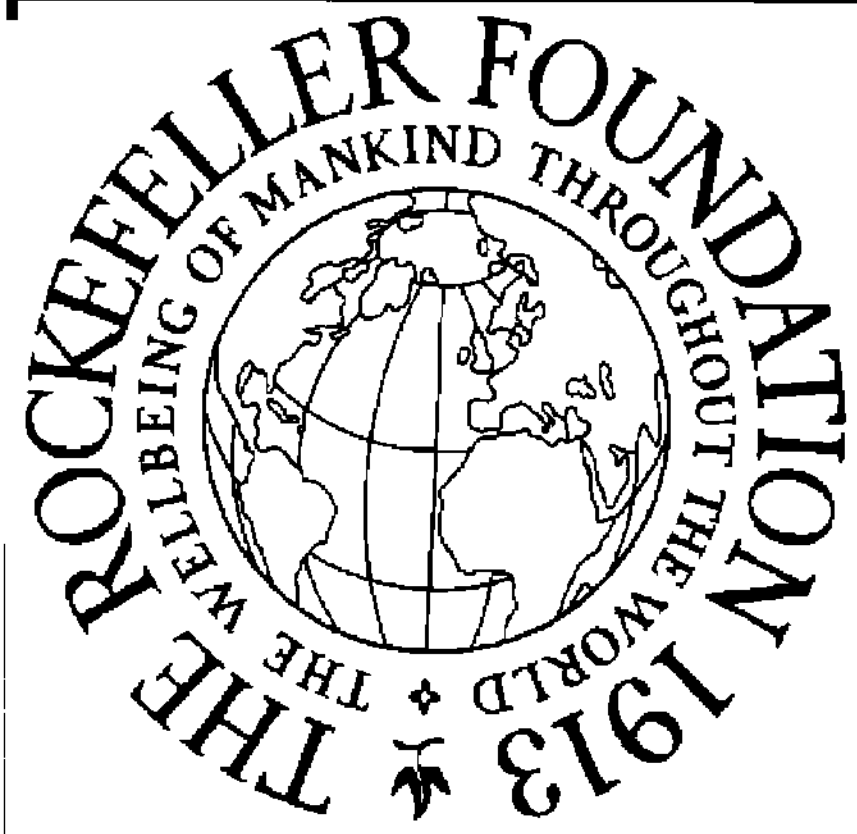
This year it is planned to provide more research space by adding a second floor to one wing of the laboratory. Work will continue in the electron microscopy laboratory, and a new laboratory of electroneurophysiology is being set up by another recently returned Foundation fellow. Director Estable is experimenting with a new antibiotic, extracted from several species of spiders, which is effective in vitro against both bacteria and protozoa, and work is in progress to establish its chemical composition.

In addition to the 1949 Rockefeller Foundation grant of $35,000, the current appropriation to the Ministry of Public Health in Montevideo provides $60,000 through 1956 for equipment and expenses of the Research Institute of Biological Sciences.

SOCIETY FOR EXPERIMENTAL BIOLOGY, ENGLAND

Annual Conferences

Over the past five years the Society for Experimental Biology, Cambridge, England, has organized symposia on nucleic acid, growth and differentiation, animal behavior, carbon dioxide fixation, and cell physiology. The meetings have been relatively small — conducted, in fact, as workshop conferences — and attended by an international group of scientists active in the particular field under discussion. The level of



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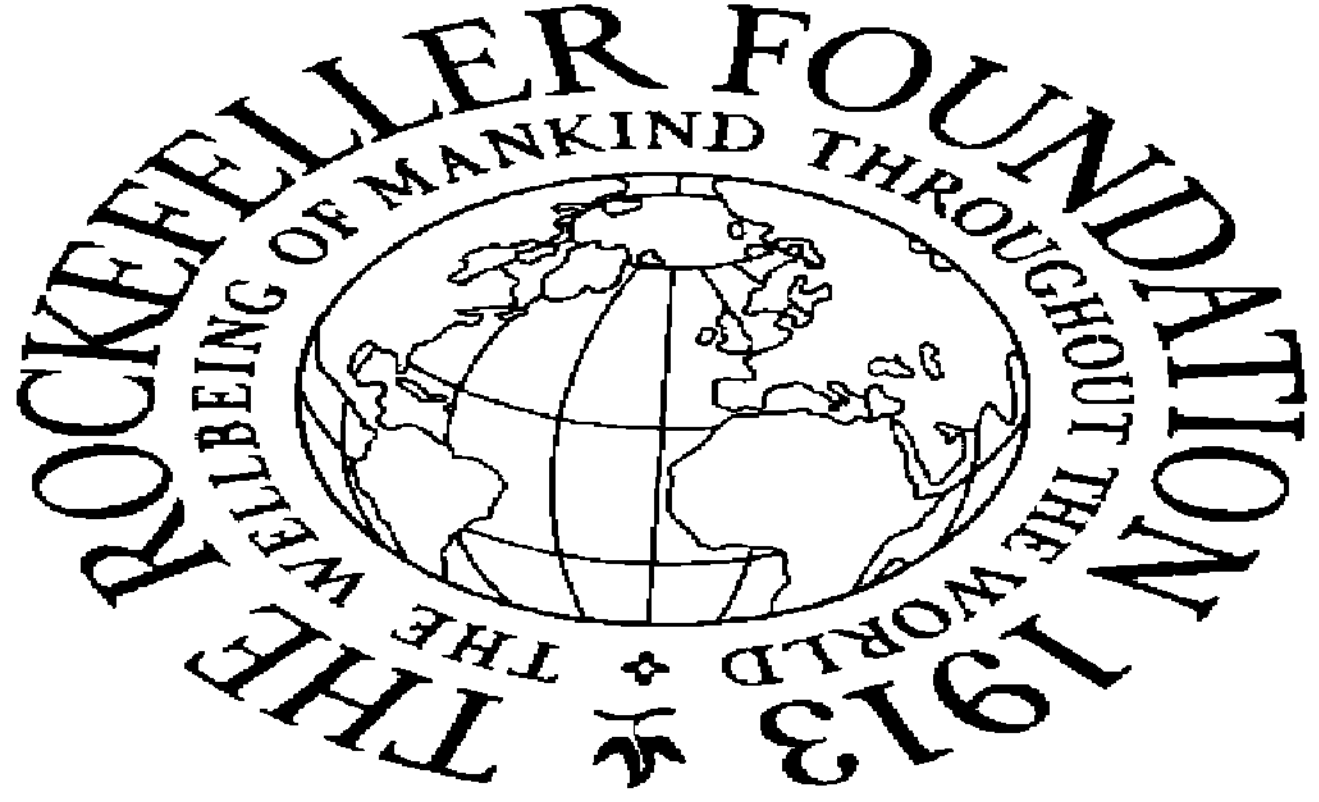
Scripps Institution of Oceanography of the University of California. *Above:* the seagoing tug "Horizon." *Below:* main buildings and 1,000-foot pier at La Jolla



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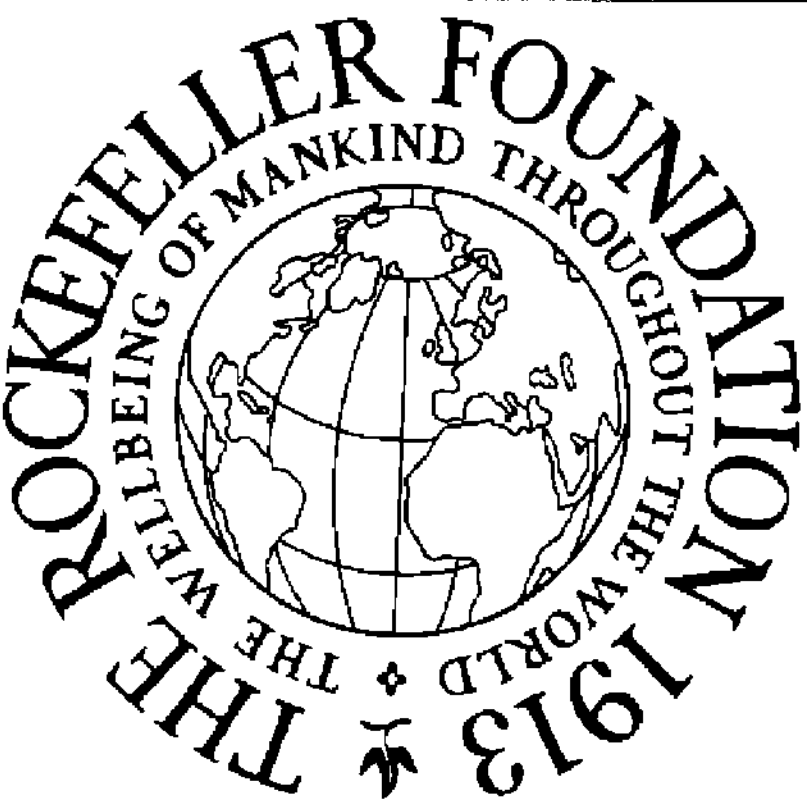

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The Institute of Advanced and Postgraduate Studies, National School of Agriculture, La Molina, Peru. *Left:* corn physiology studies. *Below:* testing potato fertilizers and tillage methods

Photograph Excised Here

subject matter presented has been uniformly high, and the conferences have done much to promote cooperation and understanding among scientists.

By a series of grants in aid, The Rockefeller Foundation has enabled various American scientists to participate in these annual conferences. This year the symposium, held in early July, had as its theme the topic of evolution. Under a Foundation grant of $10,000, two American scientists traveled to Oxford to take part also; they were Professor Millislav Demerec of the Carnegie Institution of Washington, Cold Spring Harbor, New York, and Professor William Hovanitz of the University of San Francisco. The remainder of the five-year appropriation will contribute toward the expenses of American delegates to future conferences. The probable theme for the 1953 meeting is ion absorption and secretion by cells.

WOODS HOLE OCEANOGRAPHIC INSTITUTION

Biology of the Sea

Following up a growing concern with the problems of food supply, The Rockefeller Foundation is endeavoring to stimulate greater interest in the biology of the sea; for it seems logical to expect that man will eventually have to use the sea — which, after all, covers better than 70 per cent of the total surface of our planet — more effectively as a source of food.

Despite the number of marine biological laboratories in existence today, very few are able to do more than collect and study organisms which live close to the shore. True marine biology, however, requires extensive deep-water apparatus, such as specially

designed seagoing vessels, gear to handle deep nets, and sonic devices for exploring deep water.

The Woods Hole Oceanographic Institution, Cape Cod, Massachusetts, which is one of the few laboratories in the world really equipped for deep-sea marine biology, this year requested Foundation aid in procuring the services of two additional staff members. A grant of $75,000 will support these appointments for the next three years, after which time the institution feels that it will be able to carry them on its own.

The federal government last year appropriated $750,000 for the construction of a new laboratory at Woods Hole, to be located on property adjoining the present laboratory. The considerable work being done at the institution under Navy contracts will be moved into the new laboratory, thus leaving more space in the original building for basic, nonmilitary scientific research.

UNIVERSITY OF CALIFORNIA

Studies of Marine Microorganisms

Another laboratory studying the possibilities of improving man's food supply by exploiting the resources of the sea is the one under Professor Claude E. ZoBell of the Scripps Institution of Oceanography at La Jolla. Here studies are made of the photosynthesis occurring in marine microorganisms.

The Foundation has made a three-year grant of $35,100 to the University of California to enable Professor ZoBell to carry out research on the factors that affect the biochemical activities of these microorganisms. He has long been interested in the effects

of hydrostatic pressure and last year participated in the Danish deep-sea expedition Galathea. Apparatus developed at Scripps has made it possible for Professor ZoBell to study the behavior of bacteria and allied microorganisms at pressures up to 2,000 atmospheres, which is nearly double the pressure of water at the greatest known depth in the sea. Preliminary information has been obtained indicating that there is a definite relationship between the temperature tolerance of bacteria, viruses, and enzymes and the pressures to which they are subjected. Professor ZoBell has also observed that pressure seems to affect the reproduction or cell division of certain organisms much more than it affects growth itself, a phenomenon which merits further investigation.

Biophysics

UNIVERSITY OF BRAZIL

Institute of Biophysics

In the seven years of its existence, the Institute of Biophysics at the University of Brazil, Rio de Janeiro, has become an active center of research at which Professor Carlos Chagas, director of the institute, has brought together a strong group of young investigators. For the coming three years The Rockefeller Foundation has made a grant of $33,000 to this institute, and additional funds are expected from various local sources, including the National Research Council of Brazil.

Research programs at the institute include various phases of protein and enzyme chemistry; cultivation

of protozoa in tissue culture and determination of their microstructure; continuation of work on the histochemistry, electrogenesis, and physiology of the electric eel; electrophysiology of the cortex; physical chemistry of blood with particular reference to its oxygen-carrying capacity; and investigations using radioactive isotopes. The present Foundation grant provides $18,000 for a Spinco analytical ultracentrifuge, with the remainder for consumable supplies and minor equipment items.

UNIVERSITY OF OXFORD

Microscopy and Microspectroscopy

Dr. Robert Barer of the Department of Human Anatomy at the University of Oxford has been an important contributor to the improvement of methods of low-power microscopy and spectroscopic analysis. In studying the action of ultraviolet and infrared radiations on living cells, he has constructed a new type of illuminating system whereby the cells can be viewed while they are actually undergoing irradiation. In this way any structural changes which occur can be observed instantaneously. There are many problems still to be solved in connection with this technique, and part of The Rockefeller Foundation's three-year grant of $12,000 in 1952 will be for the services of a graduate assistant to help in making the necessary observations and calculations.

Dr. Barer's work on the refractometry of living cells has now been extended to the study of blood cells, and it has proved possible to determine the hemoglobin concentration in individual red corpus-

cles. Previously the only available figure was a mean derived from millions of cells. Dr. Barer can now estimate the range of concentrations present in the cells of normal individuals, as well as of those suffering from various diseases. He also plans to work out a method of distinguishing dead or abnormal red cells from healthy ones, a technique which should have important application in determining the percentage of cells in stored blood which are likely to survive transfusion. Another application of Dr. Barer's refractometry methods has been the obtaining of accurate spectra of chlorophyll in living plant cells; from these it is hoped to clarify certain anomalies in regard to photosynthesis.

FEDERAL TECHNICAL INSTITUTE, ZURICH

Research in Electron Microscopy

Toward a program of research in electron microscopy, The Rockefeller Foundation late in 1952 made a two-year grant of $12,000 to the Federal Technical Institute in Zurich, Switzerland. The work there is under the direction of Professor Albert Frey-Wyssling of the Institute of Plant Physiology, a former Foundation fellow and a specialist in the ultrastructure of plant cells. In their investigations he and his colleagues are making full use of such modern tools as polarizing, fluorescent, phase contrast, and electron microscopy.

In order to make possible further collaboration with the Institute of Histopathology at the University of Zurich, Professor Frey-Wyssling now desires to procure a second, more powerful electron microscope

with ancillary equipment. The Federal Technical Institute itself within the past two years has more than doubled the space available for research in plant physiology, and a good portion of the new equipment has been obtained through contributions from Swiss industry. The institute has asked the Foundation to assist in the remaining purchases.

KAROLINSKA INSTITUTE

Application of X-ray Techniques

Professor Arne Engström of the Karolinska Institute in Stockholm has made significant contributions to cytochemical research with his use of very soft X rays to study cells and thin sections of tissues. He has been able to determine directly the total quantity of elements present without decomposing or otherwise destroying the tissue itself. Among the problems to which his method has been applied are the study of the molecular structure and metabolism of bony tissues, the distribution of mass in salivary gland chromosomes, and the absorption of X rays in nonhomogeneous tissues.

In mid-1952 Professor Engström was given the direction of a newly created Department for Physical Cell Research at the Karolinska Institute. The basic equipment for the department is on permanent loan from the institute, but certain additional items and accessories are needed to expand the scope of the research. For this purpose The Rockefeller Foundation has made a two-year grant of $12,000 to the Karolinska Institute. It is planned to study the ionic balance in bone during different hormonal in-

fluences in order to investigate the theory that bone tissue is an important regulator of the ionic milieu within the organism.

AGRICULTURE

Programs in Mexico and Colombia

MEXICAN AGRICULTURAL PROGRAM

As the Mexican Agricultural Program closes its first decade, the results of this collaboration between the Mexican government and The Rockefeller Foundation continue to show promise. Apart from the improvements readily visible within Mexico itself, benefits are appearing in neighboring Latin American countries. Corn, wheat, beans, and other crop varieties are gaining in productiveness and quality as a result of the intensive research projects in Mexico, and improved technical knowledge is spreading as a result of the extensive training activities.

The corn betterment program has made available improved hybrid varieties for almost the entire range of climate at which corn will grow in Mexico. For each altitude there is also an improved open-pollinated variety which, although lower in yield than the hybrids that have been developed through careful hand pollination, gives a larger yield than any native corn. Present efforts center on developing superior hybrids for the two climatic extremes of Mexican agriculture.

The field station at Chapingo is the central breeding location, but final appraisal usually is made in the region where the seed is to be used. One open-polli-

nated corn variety known as Rocamex V-520 has proved widely adaptable in the tropics, not only in Mexico but in other countries of Central and South America as well. During the year the demand for this variety steadily exceeded the supply.

In spite of more extensive distribution of new, higher-yielding varieties of wheat, increased consumption has absorbed the gain in output. Mexico still must import, as she has for many years, 45 to 55 per cent of her wheat needs. Through an international cooperative project the most promising breeding materials from Canada, the United States, and Mexico have been tested for disease resistance in all three countries. Some of the material from the Mexican program has proved highly resistant to stem rust, but one of the most urgent needs at the present time is to obtain an agronomically satisfactory breed which will resist both stem and leaf rust. Promising lines are under continual testing with this goal in mind.

The bean research program aims at early maturity, resistance to disease, and higher yield — in addition, of course, to improvement of nutritional quality. As new varieties are developed, they are taken into the areas for which they seem adapted, and through trial plantings they are introduced to farmers. By the use of good seed, the control of insects, and proper cultivation, it is hoped that bean yields may be increased from 15 bushels per acre to 30 or 40 bushels per acre.

The program of breeding various vegetables in the expectation of adding them to the Mexican diet was also expanded this year. Varieties from many parts of the world were introduced and tested for their

adaptability to the Mexican climate and soil. Native plants and seeds have also been examined to determine which lend themselves most readily to cultivation and commercial production. The breeding work on tomatoes, for example, progressed considerably during 1952. On the one hand, an attempt is being made to incorporate late-blight resistance from native strains into commercial varieties; on the other hand, the tomato program aims at developing a highly productive variety of acceptable size and shape which could be raised in the semitropics during the winter and then used as a market variety. The latter objective calls for a number of horticultural characteristics, among them resistance to sun scald, or sufficient vine cover to prevent scalding, resistance to cracking, thick walls and skin to adapt the variety to shipping, and possibly the stemless character to facilitate harvesting and reduce gouging of fruits. During winter trials at Jaloxtoc it appeared that all material was at hand for developing such a variety.

Work on commercial soil fertilizers has been continued during 1952, with nitrogen still the most important plant nutrient for corn. This would seem to indicate further research on the role of legumes in plant nutrition, and different types are to be tested during the coming year. Chemical fertilizers were used extensively on wheat for the first time with generally favorable results. When correlated with proper planting methods and irrigation, adequate fertilizing generally assured yields two and three times as high as could be obtained from unfertilized strips in the same fields.

The work of the plant pathology and entomology divisions has continued, with potato diseases and pests receiving special attention. It is hoped to increase potato production during the seasons most favorable to the growing of the crop, and also to establish the production of seed potatoes within Mexico so that the industry need not depend so heavily upon imported seed. Instead of remaining a luxury item, the potato may then take its place as a staple of the Mexican household diet.

The advance of the training activities of the Mexican Agricultural Program has matched that of the research activities. All told, close to 200 young Mexican scientists have been associated with the work, and many of them are now in positions of responsibility in federal and state organizations, in colleges of agriculture, and in private enterprise. Ten scholarships were given during 1952 to young Mexican agricultural scientists for specialized study at leading agricultural colleges in the United States; in addition, 22 students from various agricultural colleges throughout the Americas received training in the program's Office of Special Studies for periods ranging from two months to one year. The library, in addition to its regular duties, assisted in training librarians for a number of outside institutions.

An increasingly popular innovation has been the field day, which is held periodically at the field stations or substations, or occasionally at a farm which offers its hospitality. As many as 700 to 800 people have attended a single session. The demonstration fields are inspected, methods of disease and insect

control are demonstrated, and information is given as to how to select seed, how to fertilize, and how to cultivate.

The ten-year activity of the Mexican Agricultural Program represents an investment by The Rockefeller Foundation of over two and a quarter million dollars. The Foundation this year is providing further assistance with a grant of $156,900 for expenditure in 1953. This is in addition to a fund totaling $343,700 for field service expenses of the Mexican and Colombian programs. Specialists in soils science and fertility, insect pests of beans and corn, and plant pathology have been added to the Foundation staff in Mexico, bringing the total personnel to 14. Projects already in progress will continue, and work will be added in the fields of animal breeding and range and pasture improvement. Support to the program from the government of Mexico during 1952 amounted to approximately $200,000 in local salaries and in subsidy, and assurance has been given that aid on at least the same level will be continued during the coming year.

The expanding program in Mexico has created a need for additional greenhouse space, particularly for studies of vegetable seed production, potato breeding, and cereal rusts. A further appropriation of $25,000, augmenting an equal contribution from the Mexican government, has therefore been made by the Foundation to help provide such facilities. Part of the funds will aid in the construction of farm buildings at the new experiment station, La Piedad, in the State of Guanajuato, where a site of 275 acres

was purchased by the Mexican government in 1952 and turned over to the Foundation for development.

MEXICO — AGRICULTURAL EDUCATION

From the very beginning of The Rockefeller Foundation's agricultural program in Mexico, one of the fundamental aims has been to train a sufficient number of Mexican agricultural scientists so that they might handle more and more of the work involved and eventually take over the project in its entirety. The Foundation this year appropriated $150,000 for allocation by the officers toward a program to improve agricultural education in Mexico during the next three to four years.

One of the oldest of Mexico's key institutions for agricultural education is the National College of Agriculture at Chapingo. The physical plant at the college has expanded over the years, and in answer to the growing demand for trained agronomists the number of students in residence will be increased to at least 500. There is now at the college a group of competent young agricultural scientists, many of whom have had training in Mexico and abroad in connection with the Foundation's agricultural program. The present goal is to set up within the college a research group consisting of faculty members plus other interested and qualified personnel. The college is to provide additional physical facilities and an increased annual budget to support the development of a college unit in which instruction, research, and extension work are all integral parts. Early in 1953 an allocation to the college was made from The

Rockefeller Foundation's appropriation to help provide for and equip such a research group during the first year, thus initiating a program which may induce graduates to return to the college and participate in agricultural research.

A second Mexican agricultural school is the combination state, private, and national Antonio Narro College of Agriculture in Saltillo, Coahuila. The staff has been strengthened through fellowships and scholarships, and the Secretariat of Agriculture and Animal Industry recently provided 1,000,000 pesos for new buildings. Forty thousand dollars of the present Foundation appropriation has been made available to this college for the purchase of equipment for the new buildings, for support of the library, and for the further development of a field and laboratory research program.

The third and youngest institution aided from this fund is the private School of Agriculture within the Technological Institute of Monterrey. The bulk of its support is derived from a group of industrialists in the Monterrey area, but it is aided to some extent by official sources, and its degrees are recognized by accredited bodies in Mexico. The curriculum deals with several phases of technology, principally agriculture and engineering. The majority of the school's staff members are products of The Rockefeller Foundation program in Mexico. The chief obstacle to further progress is that at least six more instructors are needed. The Foundation proposes to make it possible to add the six additional faculty members at once, with the school assuming the salary of one of these

men at the beginning of each succeeding semester. For this purpose, and to provide certain items of equipment and materials in support of research activities of staff members, $26,250 has been allotted for the first year.

In addition to these three allocations, a separate grant in aid in the amount of $10,000 for the same general purpose was made in 1952 to the private School of Agriculture in Ciudad Juárez, Chihuahua. With a student body averaging over 400 members annually during the past ten years, this school is one of the larger centers of undergraduate agricultural training in Mexico. Supported chiefly by student fees, the Ciudad Juárez school recently received from the Mexican government a substantial subsidy which was used primarily for the construction of much-needed buildings. The Foundation's assistance will aid in the purchase of field, classroom, and laboratory supplies and equipment for this important center of agricultural education.

COLOMBIAN AGRICULTURAL PROGRAM

Encouraging success has been encountered by the Colombian Agricultural Program during the year 1952 in its continued experiments with corn, wheat, and beans. As in Mexico, the program is a collaborative effort of the local government and The Rockefeller Foundation which aims at developing and distributing higher-yielding, disease-resistant varieties of the most important agricultural products.

Work with corn is concentrated at the experiment stations in Medellín, Palmira, and Montería. Two

crops are grown each year, with the first planting in March or April and the second in September. The problem of seed increase and distribution is a vital one, as shown by the fact that 1,000 tons of seed are needed to plant only 10 per cent of the estimated annual corn acreage in Colombia. Then too, the problems of proper processing and storage of the crop must be surmounted. Plans are under way to construct seed processing plants at the Palmira and Montería experiment stations, and a small unit was recently completed at Medellín.

Three superior varieties of corn are now available for the median zone of climate in Colombia; the biggest gap is in the establishment of a satisfactory seed for *tierra fría* (6,000 feet and above). This type of research will be conducted largely at the new Tibaytatá experiment station, situated near Bogotá. Progress is expected to be slow, since it is possible to grow only one crop a year at this altitude. Meanwhile, excellent progress has been made in the systematic testing of native varieties of corn. While most have proved inferior in yielding ability and deficient in desirable agronomic characteristics, such collections constitute an integral phase of the search for improved varieties. In recognition of this fact, a "corn germplasm bank" is being set up in cooperation with the National Research Council. Located at the Tulio Ospina Experiment Station in Medellín, the bank will serve as a center for gathering and preserving the indigenous varieties of the Andean region.

Field days similar to those instigated by the Mexican program have been held to enable Colombian

farmers to examine the field experiments and become acquainted with details of the work in progress. About 350 persons attended the February field day in Palmira, and it is planned to make such occasions a standard procedure at each harvest of trial crops.

Experimental wheat plantings have been continued during 1952, chiefly at the central station at La Picota, and six Colombian agronomists have joined with Foundation staff members in the cooperative program. A new strain known as Rocol Menkemen 50 was selected as the first improved variety for distribution, although further testing is still under way. Fifteen tons of this seed were harvested in September. Wheat strains from the Mexican program and from other countries have meanwhile been further evaluated for adaptation to climatic conditions in Colombia. Additional crosses will be made to strengthen resistance to disease and to ensure early yield. Careful surveys of the distribution of the various types of rust are being made, for Colombia has most of the diseases that afflict wheat elsewhere.

In addition to possessing desirable agronomic characteristics, the new wheat must be satisfactory to the millers and bakers who will use the grain. The new Tibaytatá experiment station is therefore to have a completely modern milling and baking laboratory with a Colombian technician in charge.

Supplementary investigations with legumes, fertilizers, and beans have continued. Beans, particularly, could readily become a common item in the Colombian diet if problems of low yield were overcome; the factors responsible seem to be inherently

low-yielding stocks, diseases, and poor cultural practices. It is hoped that education and demonstration by extension methods will help to overcome these difficulties, for high quality and high yield are not incompatible. A specialist in bean breeding last year was added to the Foundation's staff in Colombia, and investigations are to be conducted at various locations representative of the different climates and agricultural regions where the crop can be grown. It is planned to combine the best qualities of the native varieties with the best of the stocks imported from Mexico and elsewhere.

Four additions to the Foundation staff in Colombia were made during 1952: an entomologist, a horticulturist responsible for potato studies, a soils scientist, and a plant pathologist. This brings the total Foundation staff in Colombia to seven. For expenditure in 1953 The Rockefeller Foundation has allocated the sum of $65,000, as well as a portion of the field staff budget of $343,700, and the Colombian government is providing increased support of its own. In fact, each year since the initiation of the program the government has exceeded its financial commitments and has asked the Foundation to accept increased responsibility in the development of various agricultural research programs.

TIBAYTATÁ AGRICULTURAL EXPERIMENT STATION, COLOMBIA

The agricultural program in Colombia is currently operating out of two principal centers, Medellín and Bogotá. With the rapid growth of the latter city,

however, the Colombian government's experiment station at La Picota, on the outskirts of Bogotá, has been virtually engulfed. Early in 1952 the officers of The Rockefeller Foundation were authorized to accept from the Colombian government a sum not to exceed 1,000,000 Colombian pesos, approximately $400,000, for disbursement by officers of the Foundation, with the approval of the duly constituted officers of the government of Colombia, for the building, equipment, and development of a new Tibaytatá agricultural experiment station near Bogotá.

Desirous of producing an up-to-date, technically perfect research station on its 1,200-acre site, the Colombian government has invited the Foundation to cooperate also in the design and construction of the station. The Foundation has therefore made a grant of its own, in the amount of $25,000 available until June 30, 1954, for the expenses of furnishing consultation service in the course of the projected work.

The intention is to send to Tibaytatá, for periods of one to four months, United States experts in drainage and land management, architectural design of agricultural experiment buildings, potatoes, soils, forage crops, and animal husbandry. The first of these men to go to Colombia is Mr. Virgil C. Pettit of the Office of Foreign Agricultural Relations of the United States Department of Agriculture. He spent about a month with the Colombian personnel developing the design and preliminary drawings for the new laboratory building at the station. Mr. Charles Rishel, who has been in Colombia with a subsidiary of the United Fruit Company, served as consultant on the engineer-

ing problems through the courtesy of the company.

When completed, Tibaytatá will be the principal station of the Colombian Agricultural Program for research at high altitude. Already there are test plots of wheat, corn, and beans, with potato experimentation to commence shortly.

Aid to Research and Teaching

LATIN AMERICAN AGRICULTURAL INFORMATION CENTER

In the course of a trip through Latin America this year, the Foundation's Board of Consultants for Agriculture found each country they visited deeply interested in the establishment of an agricultural information center in Latin America. Such a center would have as its primary function the receipt, organization, and publication of significant agricultural data, dealing principally with corn, wheat, and other basic crops, for distribution to scientists throughout the Americas and elsewhere. The center would also gather the necessary information for developing uniformity in the crop-testing procedures used by the various Latin American countries. In this way it would be possible to bring together rapidly the most recent information concerning genetic improvement, disease and pest problems, and pertinent crop data.

In organizing such a center, it is important that travel be provided for key individuals who will assist and advise in the establishment of uniform testing centers in the participating countries. Information obtained at these centers could then be

submitted to the main information center and, subsequently, to those taking part in the agricultural program and other interested persons.

Toward the establishment and maintenance of this information center, The Rockefeller Foundation has made a two-year grant of $40,000.

NATIONAL SCHOOL OF AGRICULTURE, PERU

Advanced and Postgraduate Instruction

To meet the need in Latin America for high-level training of agricultural technicians, the National School of Agriculture in La Molina, Peru, recently formed an Institute of Advanced and Postgraduate Studies. The school is the only national college of agriculture in Latin America which has successfully combined both plant and animal science in an undergraduate curriculum, and with the new institute it proposes to make possible further, more specialized training. Preliminary plans call for organization of the advanced work into four main divisions: biochemistry and nutrition, soils science, plant physiology, and general statistics and biometry.

According to Mr. Alberto León, director of the school and Peruvian Minister of Agriculture, the new institute will serve at first as a guidance center for advanced undergraduates of high academic standards, preparing them for graduate and research work. Specific course work will be provided and complemented with laboratory instruction at advanced levels. As the institute becomes more firmly established, it is planned to accept not only local students

and graduates, but graduates of agricultural colleges in other countries as well.

The Rockefeller Foundation appropriation toward the initiation of this program is in the amount of $30,000. Since funds for salaries and plant expansion will be procured from local sources, the Foundation grant will provide equipment, supplies, and library materials, mostly from the United States, during the period ending December 31, 1953.

RURAL UNIVERSITY OF THE STATE OF MINAS GERAIS, BRAZIL

Agriculture and Veterinary Medicine

The Rural University of the State of Minas Gerais in Brazil was organized and founded under the direction of an American plant pathologist in 1927. At that time a two-year course in practical agriculture comprised the curriculum. The following year instruction toward the degrees of agronomical engineer and doctor of veterinary medicine was instituted, and since that time there have been over 1,000 graduates from the lower courses and about 400 from the professional schools. Close contact with the United States has been maintained by having two members of the teaching staff come each year to the United States for advanced training.

At present the School of Agriculture and the School of Veterinary Medicine constitute the principal parts of the Rural University, incorporated under state law in 1941. Research activities have been encouraged at both schools; in fact, it was at this university that

the first Brazilian hybrid corn varieties were produced. The present rector of the university, J. F. Braga, is himself an agronomist and one of the school's early graduates. The School of Veterinary Medicine, which was transferred over a decade ago to Belo Horizonte, the state capital, is to be moved back to its original rural site on the 3,700-acre tract adjacent to the small town of Viçosa, where the agricultural school is still located.

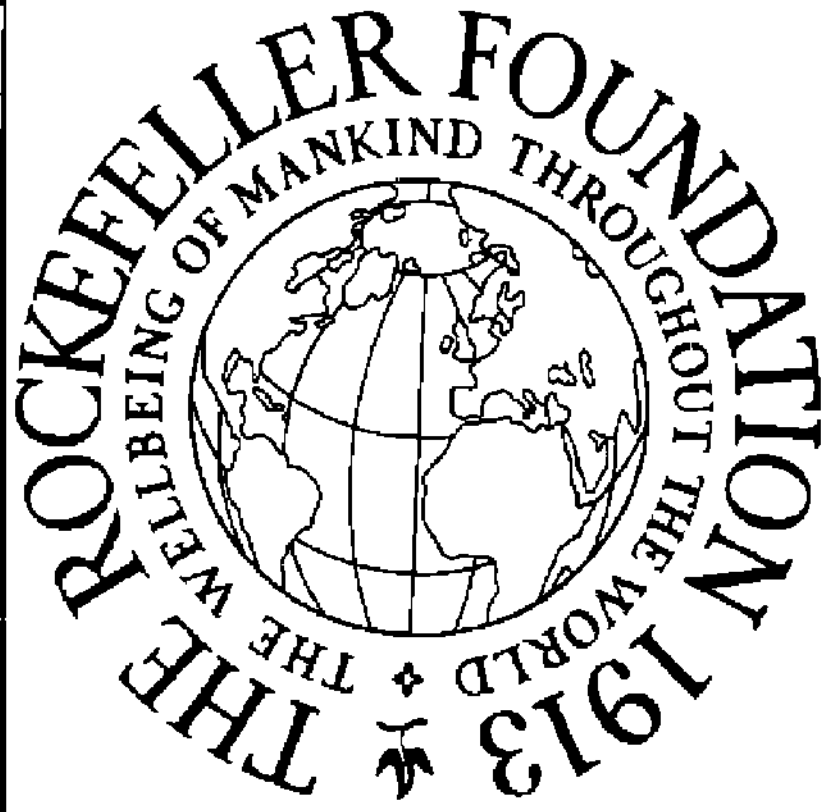
To help in furnishing equipment and supplies for the new buildings now under construction at Viçosa for the Schools of Agriculture and Veterinary Medicine, The Rockefeller Foundation has appropriated $30,000 for the period ending September 30, 1953. The federal Ministry of Agriculture has agreed to provide about $40,000 for the same purpose.

MINISTRY OF ECONOMY, ECUADOR

Forestry

Ecuador is one of many Latin American countries in which soil erosion and conservation problems are of prime importance. In recognition of this fact, the government of Ecuador in January of 1949 established a Department of Forestry in the Ministry of Economy. The director of the department is Mr. M. Acosta-Solis, an Ecuadorian botanist who is known abroad through his numerous publications in botany, conservation, and forestry.

The present program of the Department of Forestry includes the establishment of additional tree nurseries for distribution of seedlings and for experimentation, further testing of the adaptability of foreign species to different ecological areas in Ecua-



Photograph Excised Here

Colombian Agricultural Program: dusting corn with 5 per cent DDT to control cutworms and army worms

Mexican Agricultural Program: harvesting an improved variety of potato near Toluca

Photograph Excised Here

Research on agricultural economics and the organization of industry at Vanderbilt University, Tennessee

Photograph Excised Here

Discussing the current survey on economic behavior at the Survey Research Center, University of Michigan

Photograph Excised Here

dor, and the continued gathering of data on the forest resources of the country. The Rockefeller Foundation, in order to assist an endeavor which has been recognized by the government of Ecuador as important to the national economy, in 1952 made a two-year grant of $15,000 for the purchase of equipment and supplies.

ALLAHABAD AGRICULTURAL INSTITUTE, INDIA

Agricultural Development Program

The Rockefeller Foundation has made available to the Allahabad Agricultural Institute in India $150,000 to be used primarily for the purchase of scientific equipment.

The Allahabad Agricultural Institute is one of India's agricultural colleges most active in the field of agricultural extension work. It was established 40 years ago at Allahabad in North Central India under the auspices of American missionary groups. Although the institute, which is now directed by Mr. Arthur T. Mosher, has continued under American leadership, it has become in reality an Indian institution. The present faculty consists of 45 Indians, 10 Americans, and 1 New Zealander. The institute is also the official agricultural college of the University of Allahabad and receives 15 per cent of its present income from government grants.

Effective agricultural programs in India operate best at the level of the small agricultural villages. While a long tradition of service has won for the Allahabad Institute acceptance among Indians, its democratic atmosphere has been of value in helping to

overcome caste and other social barriers. The Rockefeller Foundation grant is to help the Allahabad Agricultural Institute to expand its program by improvement of its physical plant.

UNIVERSITY OF NORTH CAROLINA

Plant Genetics and Statistics

With the goal of elucidating some of the mechanisms that control inheritance of the quantitative characteristics of plants, a program of theoretical and applied research has been formulated at the University of North Carolina, Chapel Hill. Of particular interest are the genetic mechanisms which govern the yield of important crop plants. An integral part of the research is the development of statistical methods for the analysis of genetic populations. The university has built up a strong corps of experimental and theoretical geneticists and mathematical statisticians skilled in planning and interpreting experiments. Close contact is maintained with the Agricultural Experiment Station of the North Carolina State College of Agriculture and Engineering (part of the university), which provides facilities for carrying out the field aspects of the studies in progress.

Under the current program, theoretical considerations are made use of to derive genetic expectations for populations of functionally diploid plants developed under a variety of systems of selection and mating, and to analyze how these expectations change with variation in the genetic model assumed. Both experiment and theory are involved in applying these factors to understanding the inheritance of quantita-

tive characteristics of corn. The university's Institute of Statistics is sponsoring the program, which received Foundation aid in 1949 and 1951. Support was renewed this year for a five-year period with a grant of $170,000.

UNIVERSITIES OF ILLINOIS AND CALIFORNIA

Insecticide Studies

When DDT was first introduced, it seemed to be almost a magic answer to the problem of controlling such insects as the common fly. Effective in very small amounts and over long periods of time, it gave excellent control. But when it had been used for some time, DDT seemed to lose its effectiveness; the flies were "becoming resistant." Whether this meant that the susceptible varieties were being destroyed, leaving the field clear for the formerly rare, resistant mutants, or whether all the flies were, so to speak, "learning" how chemically to degrade DDT within their bodies into less toxic substances, no one really knew. The chemical variants of DDT which were produced, and which achieved temporary improvement, eventually proved subject to a similar loss of effectiveness.

It is strongly suspected that this phenomenon is not peculiar to flies and DDT, but is typical of a more general reaction. Various sulfa drugs and antibodies, for example, lose their effectiveness in a similar way — as though the microorganisms in question have "developed resistance" to the previously toxic substances. The problem of developing a suitable insecticide is being widely attacked by chemical industries, but few of them have sufficient back-

ground in insect physiology, insect nutrition, and biochemical genetics to carry out the kind of basic research that is essential.

Two of the units best equipped to carry on fundamental studies of this type are those under Professor Clyde W. Kearns at the University of Illinois, Urbana, and under Professor R. L. Metcalf at the University of California Citrus Experiment Station, Riverside. Professor Kearns's group is primarily concerned with the effect of insecticides on the nervous system and with the effect of temperature on the detoxification of DDT; for this work The Rockefeller Foundation has made a grant of $28,000, in addition to a 1950 grant of $12,000, to be available until late 1954. Professor Metcalf's work is supported with an appropriation of $15,000, also for a two-year period, largely for studies of the biochemistry of houseflies in relation to insecticidal resistance, and for the development of new insecticidal materials or of synergists or activators for known insecticides.

UNIVERSITY OF FLORIDA

Special Counselor

By virtue of its history and geographic location, the State of Florida has an interest in the economic, political, and cultural problems of Latin America. An extensive program of Latin American studies has been developed at the University of Florida in Gainesville. The university over the past 30 years has built up a staff of Latin American specialists, a curriculum of relevant courses, and a catalogue of extensive

library holdings. Latin and North American students have been encouraged to take part in the broad range of activities offered.

In the field of agriculture particularly, because of climatic and other similarities, Latin American students have been pleased to obtain at Florida an education of value in their own homelands. In order to relate the formal and theoretical course work still further to the students' own problems and needs, the University of Florida has considered it expedient to appoint to the agricultural faculty a new member who will act as special counselor to the Latin American agricultural students. With a command of both the English and Spanish languages, this professor will be able to help the students integrate their American education more fully with the actual conditions they will find upon returning to Latin America. Toward this end, frequent field trips will be taken to the experiment stations operated by the university.

As a contribution to the salary and expenses of the new appointee, Mr. Albert S. Muller, The Rockefeller Foundation has made available to the University of Florida the sum of $30,000 for use during the three-year period beginning July 1, 1952.

BACTERIOLOGICAL INSTITUTE OF CHILE

Animal Virus Laboratory

The Bacteriological Institute of Chile stems from the former Hygiene Institute, created in 1892 to deal with public health problems. Throughout the 23 years of its existence, the institute has been headed by Dr. Eugenio Suárez, a physician who has served

on several occasions as director general of the Ministry of Health. The institute, located in a new building on the outskirts of Santiago, operates chiefly as a diagnostic and training center but also produces vaccines and other biological and chemical products.

The section of the institute in which the Foundation has a particular interest is the Department of Animal Viruses. Under Dr. Ramón Rodríguez, the program has concentrated on foot and mouth disease and hog cholera. The viruses of these diseases have been isolated and classified, and control methods are being worked out. In answer to the challenge presented by a recent invasion of Chile by Newcastle disease of poultry, the department isolated and identified the virus and is now studying its properties with the intent of developing an effective vaccine.

Toward building and equipment costs of a new animal virus laboratory now under construction, the Minister of Agriculture and the Minister of Public Health of Chile have agreed to provide jointly over $60,000. The Foundation's grant of $40,000 for equipment and supplies will supplement this contribution during the period ending December 31, 1953.

SPECIAL PROJECTS

INSTITUTE OF BIOLOGY AND TECHNOLOGICAL RESEARCH, CURITIBA, BRAZIL

On the edge of the rapidly growing city of Curitiba, capital of the State of Paraná, Brazil, there is a tract of 12 acres on which is located the Institute of Biology and Technological Research. Founded in 1941 as a

state institution to conduct investigations in agriculture and basic science, the institute has served expanding local industry through research, analysis, and control of various Brazilian products.

To the group of eight buildings which, together with a 50-acre field station in the northern part of the state, comprise the institute there is now being added a building which is to house a new biological laboratory. Constructed by the Paraná State Secretariat of Agriculture, Industry, and Commerce and financed by funds from the governor of Paraná, the laboratory will be equipped in part through a grant of $40,000 from The Rockefeller Foundation. The appropriation is available through the calendar year 1953, with the money to be released at the discretion of the Foundation officers as the building progresses.

Research activities at the institute, under the direction of Dr. Marcos A. Enrietti, cover the full range of problems in animal and plant pathology. Basic work is also being done in enzyme chemistry and thymus metabolism, and on the agricultural side investigations concern diseases of potatoes and flax, animal parasitism, and soils and fertilizers.

UNIVERSITY OF CALIFORNIA

White Mountain Research Station

Although high altitude research stations equipped for work in biology exist in Europe and in South America, to date there has been no such station in the United States. During the war a government station was established in the White Mountains of

California, 200 miles from San Francisco and accessible by a year-round road. In 1950 the Office of Naval Research granted a contract to the University of California for the maintenance of this station, and preliminary biological research was undertaken. By 1951 the station had proved so successful that new facilities and living quarters were erected. At present there are laboratories at altitudes of 10,500 and 12,500 feet, and there will soon be available a small structure at 14,246 feet, the summit of White Mountain Peak.

In order to broaden the scope of operation of the station and make most effective use of the facilities it provides, responsibility for direction has been vested in a group of University of California faculty members broadly interested in the pursuit of high altitude research and representing a number of the biological and physical sciences. The group is to act as the agent of the president of the university in administering the station, and serve as a board to consider the scientific merit of projects proposed for the station, allocating facilities and space there. The station is financed in equal measure by the Office of Naval Research, the National Science Foundation, and The Rockefeller Foundation; each has made a three-year grant of $36,000 to the University of California for general support of the station.

Since the station is organized basically as a service facility, a wide variety of projects are being carried out there. The laboratories are open to any properly qualified investigator who wishes to make observations or perform experiments for which a high alti-

tude is necessary or desirable. Representative projects currently under way include studies of metabolic adaptations of animals to high altitudes, analysis of acclimatization to low oxygen content, meteorological observations, and research on range grasses. Studies have been proposed in such fields as cosmic ray research, human nutrition, the effects of high altitude on endocrine function, and characteristics of the atmosphere.

AMERICAN ACADEMY OF ARTS AND SCIENCES

Institute for the Unity of Science

A decade and a half before the last war, a small group of specialists were in the habit of gathering each week at the University of Vienna to discuss the problem of unifying the sciences. This *Wiener Kreis*, as it came to be called, was seeking a common ground for understanding the phenomena of nature and a common language with which to express this understanding. During the past ten years, certain members of the group have come to the United States and established the movement here as the Institute for the Unity of Science. Under the sponsorship of the American Academy of Arts and Sciences, the group has its headquarters in Boston, Massachusetts.

The institute arranges regional meetings on topics relating to its general interests, sponsors publications, such as the *International Encyclopedia of Unified Science*, and promotes international meetings and other contacts in its field. New projects include

preparation of a dictionary of operational definitions and a study of the sociology of science. The latter would emphasize science as an integral part of the general social activity of man. In support of institute activities, The Rockefeller Foundation has made a three-year grant of $15,000 to the American Academy of Arts and Sciences.

CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE

Scientific Conferences

After the intellectual isolation imposed by the war years, one of the most urgent needs of French scientists was to resume their contacts and cooperation with the rest of the world and to reactivate research efforts within France itself. Toward this end The Rockefeller Foundation in 1946 made a $100,000 grant to the Centre National de la Recherche Scientifique, Paris, to promote a series of specially planned conferences in various fields of the natural sciences. The colloquia were to be informal working conferences, confined to specific subjects rather than broad general topics. Active attendance would normally be limited to 25, though with provision for an audience of local students and other interested young people.

In the six years since the Foundation grant was made, these principles have been adhered to. There have been 37 colloquia covering a wide range of subject matter. Twenty-three have been held in Paris, the rest in the provincial university cities of France in order to spread the opportunities offered. Many notable guests have attended; at one confer-

ence in 1950, for example, no less than six Nobel Prize winners from outside France took part. The meetings, each holding daily sessions for about two weeks, have attracted many observers.

The benefits derived from these colloquia have been so extraordinary, not only to the eager scientists within France but also to the foreign visitors, that the Centre National de la Recherche Scientifique has decided to continue the program. As in the past, the center will meet the expenses of French participants; The Rockefeller Foundation again has appropriated a sum to help defray the expenses of non-French delegates, this time in the amount of $40,000 over a three-year period. It is proposed to schedule four meetings during each of the three years, with the same policies as before concerning size, subject matter, and geographical distribution of the conferences. Further progress is thereby anticipated in focusing research interests, in exchanging knowledge, and in planning at an international level the work to be done.

GRANTS IN AID

During 1952 some 108 grants in aid were allocated by the Division of Natural Sciences and Agriculture from funds set aside for this purpose. These grants, which amounted to $401,565, were distributed among projects in 26 different countries and ranged in size from $450 to $10,000. Approximately one-third were travel grants, for the most part to enable individuals from other countries to come to the United States,

or to help meet their expenses while here. The rest were largely grants providing research aid or equipment for projects in line with the division's interests.

ARGENTINA

Institute of Biochemical Investigations, Campomar Foundation, Buenos Aires:

$3,250 to provide a year's experience in the United States for a staff member, Enrico Cabib

$6,100 for expenses of biochemistry research by Alejandro Paladini

AUSTRALIA

E. G. Bowen, Commonwealth Scientific and Industrial Research Organization, Sydney; $2,600 toward the expenses of his attendance at a series of conferences on problems of cloud seeding and rain making to be held at the University of Arizona and the General Electric Laboratories

Robert K. Morton, University of Melbourne; $900 to visit centers of work in enzyme chemistry in the United States and Canada, on his return from England, where he has been spending two years at the University of Cambridge

University of Melbourne; $2,400 for the purchase of equipment to be used under the direction of Professor V. M. Trikojus of the Department of Biochemistry

University of Sydney; $6,000 toward the salaries of research assistants to work under the general direction of Professor A. J. Birch in the Department of Organic Chemistry, over a three-year period

AUSTRIA

University of Vienna, Faculty of Medicine; 26,400 Austrian schillings (approximately $1,060) as a contribution toward

genetics research under the direction of Professor Felix Mainx of the Institute of General Biology

BELGIUM

State Agronomical Institute, Gembloux; $2,500 toward research in microbiology under the direction of Professor Paul Manil

University of Liège; $1,500 toward research on the physical chemistry of biologically important molecules under the direction of Professor Victor Desreux in the Institute of Physical Chemistry

University of Louvain; $4,000 toward research in muscle physiology under X. M. Aubert in the Laboratory of Physiology

BRAZIL

Faculty of Medicine, University of São Paulo; $3,100 for allowance and living expenses of Dr. Hanna A. Rothschild of the Department of Histology and Embryology, while in the United States

Dalmo C. Giacometti, Institute of Agronomy, Belo Horizonte; $500 toward his trip to Hawaii to work on plant breeding with W. B. Storey at the Hawaii Experiment Station, Honolulu

Institute of Agronomy (São Paulo State Secretariat of Agriculture), Campinas; $2,500 for research equipment for Dalvo M. Dedecca in the Department of Botany

Professor Luis Carlos Junqueira, head of the Laboratory of Histology and Embryology at the University of São Paulo; $1,700 toward a three-month visit to European laboratories working on experimental biology

Luiz de Queiroz School of Agriculture, University of São Paulo, Piracicaba; $900 for research expenses in connection with Warwick E. Kerr's work on the genetics of bees

Carlos S. Schlottfeldt, Rural University of the State of Minas Gerais; $500 for travel between Cornell University, Ithaca, New York, and Belo Horizonte, Brazil

University of Brazil, Rio de Janeiro; $8,000 for teaching and research expenses of Professor Hilgard O'Reilly Sternberg of the university's Research Center of Brazilian Geography

University of Paraná, Department of General Biology, Faculty of Philosophy; $6,000 for expenses of teaching and research in genetics under the direction of Professor Newton Freire-Maia

University of Rio Grande do Sul, Faculty of Philosophy, Pôrto Alegre; $2,400 for research expenses of Professor Antonio R. Cordeiro in the Laboratory of Genetics

University of São Paulo:

Faculty of Medicine, Department of Physiology; $4,310 to permit Dr. Rainer Fried to spend a year in the United States doing research

$650 to the Faculty of Philosophy, Sciences, and Letters to enable Aylthon Brandão Joly, in the Department of Botany, to purchase two diving helmets

$6,000 to provide research materials for the electron microscopy department in the Polytechnical School, under the direction of Helena B. Lopes

$3,000 to provide a four-wheel drive jeep station wagon, primarily for field research in parasitology under the direction of Professor Zeferino Vaz of the Faculty of Veterinary Medicine

$1,150 toward travel expenses of Professor Arthur Wormall between London and São Paulo, when he spends six months at the university as visiting professor in the Faculty of Medicine, continuing his work in physiology with isotope techniques

CANADA

McMaster University, Hamilton, Ontario; $1,500 for the research of Professor S. Kirkwood in the Department of Chemistry

COLOMBIA

Ministry of Agriculture; $5,500 for equipment and supplies needed by Juan Orjuela N. and Hernando Reaga S. in their work at the experimental station near Bogotá

National University of Colombia, Faculty of Agronomy, Medellín; $6,500 for the purchase of scientific texts, references, and periodicals

COSTA RICA

Inter-American Institute of Agricultural Sciences, Turrialba; $10,000 toward the expenses of a meeting of Latin American agricultural librarians at Turrialba

DENMARK

Carlsberg Foundation, Copenhagen; 17,000 Danish crowns (approximately $2,550) toward the salary of a technician to work in the Physiological Department of the Carlsberg Laboratory under the direction of Professor O. Winge

Museum of Natural History, Aarhus; $5,000 toward the purchase of basic equipment for research in experimental ecology under the direction of H. M. Thamdrup

University of Copenhagen; $1,500 toward the purchase of equipment and supplies for research in experimental cytology under the direction of Erik Zeuthen

FINLAND

Åbo Academy; $3,000 in support of work in physical chemistry under the direction of Professor Per Ekwall, who plans trips to England and France to make direct contact with progress in modern physical chemistry

Biochemical Institute of Helsinki; $3,750 toward the purchase of scientific apparatus to be used under the general direction of Professor Artturi I. Virtanen for research in general biochemistry

Professor Jorma Erkama, professor of biochemistry at the University of Helsinki; $1,800 toward the cost of his proposed visit to various European countries

FRANCE

Professor Pierre Desnuelle, Faculty of Sciences, University of Marseille; $2,500 toward a three-month visit to the United States to observe advances in biochemical research

GREAT BRITAIN

Professor William I. B. Beveridge, University of Cambridge, England; $1,650 toward his travel expenses when visiting the United States in the spring of 1953, a part of which time he will be visiting professor in the Department of Bacteriology at Ohio State University

Commonwealth Mycological Institute, Kew, England; $1,000 for the purchase of equipment and supplies used in the preparation of the institute's *Index of Fungi*

Hans Grüneberg, Department of Biometry, University College, University of London, England; $500 as part of the costs of his trip to the United States to work at the Roscoe B. Jackson Memorial Laboratory, Bar Harbor, and at Columbia University

Stanislaw K. Kon, Department of Nutrition of the National Institute for Research in Dairying, Shinfield, England; $2,000 for visits in the United States to a number of research centers along the Atlantic Coast and in Minnesota

B. J. Mason, Imperial College of Science and Technology, University of London, England; $2,200 toward the expenses of his attendance at a series of conferences on problems of cloud seeding and rain making to be held at the University of Arizona and the General Electric Laboratories

Society for General Microbiology, England; $1,200 toward the travel expenses of two American delegates invited to take part in the society's symposium on Adaptation in Microorganisms, to be held in England in the spring of 1953

University of Cambridge, England; $2,200 for the purchase of equipment to be used in research in animal behavior under the direction of William H. Thorpe of the Department of Zoology

University of Durham, King's College, Newcastle-upon-Tyne, England; $5,000 toward research in the physical chemistry of nucleic acids under the direction of Joseph Weiss of the Department of Chemistry

University of Glasgow, Scotland:

$6,700 toward the purchase of equipment to be used under the direction of Professor J. N. Davidson in the Department of Biochemistry

$9,400 toward the purchase of equipment to be used in the Department of Chemistry under the direction of Professor J. W. Cook

University of Leeds, England; £870 (approximately $2,450) for research in biophysics in the Botany Department

University of Nottingham, England; $450 toward equipment for research directed by Professor D. O. Jordan of the Department of Chemistry

University of St. Andrews, Scotland:

$4,000 for the purchase of equipment to be used under the general direction of Professor H. G. Callan of the Department of Natural History

$1,700 toward the purchase of equipment for research in biochemistry in the Department of Chemistry

INDIA

International Society of Plant Morphologists, Delhi; $2,000 toward the cost of establishing a scientific journal called *Phytomorphology*

P. D. Karunakar, principal of the Agricultural College and Research Institute, Coimbatore; $5,000 toward the cost of travel and living expenses while visiting agricultural centers in the United States

L. S. S. Kumar, principal of the College of Agriculture, Poona; $5,000 toward the cost of travel and living expenses while visiting agricultural centers in the United States

B. L. Sethi, principal of the Government Agricultural College, Kanpur, United Provinces; $4,000 toward the costs of travel and living expenses while visiting agricultural centers in the United States

ITALY

Professor Adriano Buzzati-Traverso, University of Pavia; $900 to continue his stay at the University of California, Berkeley

University of Naples; $950 for the purchase of equipment to be used for research in experimental biology under the direction of Professor Giuseppi Montalenti of the Institute of Genetics

University of Palermo, Sicily; $5,000 toward the purchase of equipment and supplies to be used in experimental biology under the direction of Professor Alberto Monroy of the Department of Comparative Anatomy

University of Rome; $1,000 toward the purchase of equipment and supplies for use in experimental biology under the direction of Enrico Urbani of the Laboratory of Comparative Anatomy

JAPAN

Nagoya University; $10,000 toward the purchase of equipment and supplies to be used for research in embryology under the direction of Professor Tuneo Yamada of the Biology Department

Tokugawa Institute for Biological Research, Tokyo; $10,000 toward research in photosynthesis and mass culture of algae, under the direction of Hiroshi Tamiya

MEXICO

National University of Mexico, Faculty of Sciences, Institute of Mathematics; $1,775 toward the cost of study in mathematical statistics at Columbia University by Remigio Valdes Gamez

School of Agriculture, Ciudad Juárez, Chihuahua; $10,000 for the purchase of field, classroom, and laboratory supplies and equipment

$10,000 for a two-year period for the expenses of an organization meeting of the Inter-American Society of Soils Scientists

NETHERLANDS

Professor Albert Jan Kluyver, Technical University of Delft; $1,200 toward his visit to the United States in 1953 to deliver the Prather Lectures at Harvard University

Frederik Jan Loomeijer, University of Groningen; $1,000 for his visit to Sweden, where he is to continue his protein research for four months at the Institute of Biochemistry, Uppsala

University of Amsterdam; $800 toward the salary of a research associate who is working with Professor M. W. Woerdeman in the Laboratory of Anatomy and Embryology

University of Leiden; $1,000 toward research in experimental biology under the direction of Professor D. J. Kuenen of the Department of Zoology

NORWAY

Einar Wang Lund, University of Oslo; $3,000 toward the cost of his one-year stay in the United States while working in the Yale University laboratories with Professor John G. Kirkwood of the Department of Chemistry

Professor Arnold Nordal, Pharmaceutical Institute, University of Oslo; $1,900 toward the expenses of his one-year visit to the United States

PERU

Alexander Grobman, National School of Agriculture, Lima; $1,600 to take part in the Inter-American Symposium on Plant Breeding, Pests, and Diseases in Brazil in March-April, 1952, and, further, to spend two months with the Mexican Agricultural Program

Ministry of Agriculture, Lima; $700 toward research on potatoes, under the direction of Carlos Ochoa

National College of Agriculture, La Molina; $10,000 to provide the salary and field and travel expenses of Rosendo Postigo in connection with a project on stem rust control, for a two-year period

National University of Cuzco; $1,500 toward the cost of a greenhouse for plant breeding work, under the direction of Professor Cesar Vargas

University of San Marcos, Faculty of Veterinary Medicine, Lima; $4,000 toward the cost of library materials

PORTUGAL

National Agronomical Station, Sacavém; $600 toward the expenses of research on soil structure under the direction of Luis Bramão

SOUTH AFRICA

University of Pretoria; $4,000 for research in plant physiology under the direction of Professor Margaretha G. Mes of the

Plant Physiological Research Institute, for a period of 17 months

SWEDEN

Medical School, Gothenburg; $4,100 toward the purchase of equipment to be used in research on the fine structure of cells under the direction of Professor Holger Hyden of the Institute of Histology

Royal Swedish Academy of Sciences, Stockholm; $2,500 toward the expenses of a limnological expedition to South America under the direction of Lars Brundin of the University of Stockholm

University of Lund; $6,000 toward the purchase of equipment for use under the general direction of Professor Sune Bergstrom of the Department of Physiological Chemistry

University of Stockholm; $6,300 toward the purchase of X-ray apparatus for research in genetics under the direction of Professor Gert Bonnier

SWITZERLAND

Ernst Horber, Swiss Federal Agriculture Department, Zurich; $1,500 as a contribution to his prolonged stay to work in the Department of Entomology at Kansas State College

UNITED STATES

American Museum of Natural History, New York; $2,300 toward the ecological research of T. C. Schneirla and Carl C. Lienau

California Institute of Technology, Pasadena; $6,250 toward the travel and living expenses of scientists invited to take part in a conference on the configuration of polypeptide chains in proteins, the conference to be held in the fall of 1953 in Pasadena

Professor Erwin Chargaff, College of Physicians and Surgeons, Columbia University, New York; $2,500 toward the cost of

his proposed visit to European laboratories working on chemistry of the cell

Columbia University, New York:

$2,400 toward a visit to the United States by Paul Denes of the Phonetics Laboratory of University College, University of London

$2,250 toward the expenses of a trip to Brazil of Professor Th. Dobzhansky, population geneticist

Dartmouth College, Hanover, New Hampshire; $10,000 toward a program of research in cell physiology directed by Professor Roy P. Forster of the Department of Zoology

Emory University, Atlanta, Georgia; $10,000 toward the purchase of equipment to be used for research in biochemistry under the direction of Professor Francis Binkley in the School of Dentistry

John Crerar Library, Chicago, Illinois; $9,700 toward the development of a manual of rules and procedures for classified catalogues in the scientific fields

Johns Hopkins University, Baltimore, Maryland; $5,000 for the research of E. V. McCollum, emeritus professor of biochemistry, in the field of protein chemistry

Rita Levi-Montalcini, Department of Zoology, Washington University, St. Louis, Missouri; $875 for round-trip travel between St. Louis and Rio de Janeiro to work at the Institute of Biophysics with colleagues in experimental biology, for a seven-month period

Marine Biological Laboratory, Woods Hole, Massachusetts; $5,000 to be used in research under the direction of A. Szent-Györgyi

Massachusetts Institute of Technology, Cambridge; $8,600 toward research in mechanical translation under the direction of J. B. Wiesner in the Research Laboratory of Electronics

Michigan State College, East Lansing; $5,000 as a contribution to the research of Professor Charles L. Hamner in the field of plant biochemistry

National Academy of Sciences, Washington, D. C.; $5,000 for part of the expenses connected with the participation of American delegates in the conferences on Biochemistry of Development and Cell and Tissue Differentiation, held in Utrecht, Netherlands, and Stockholm, Sweden, in 1952

Oregon State College, Corvallis; $3,300 toward the research of Professor Vernon H. Cheldelin of the Department of Chemistry

Pennsylvania State College, State College; $1,500 to administer a grant for Gerhardt Schmidt of the Weizmann Institute of Science, Rehovoth, Israel, while he spends six months at the laboratories of the college working with Professor Raymond Pepinsky

Professor Abraham Sachs, Brown University, Providence, Rhode Island; $2,000 toward his trip to England to work in the British Museum on a corpus of all mathematical, astronomical cuneiform texts which contain computations for lunar and planetary motion during the last centuries B.C.; Professor Sachs is working on this project with Professor O. Neugebauer, also of Brown University

University of California, Berkeley; $10,000 for the research of Nicholas Mirov, senior plant physiologist at the university's Forest Experimental Station, for a period of not more than two years

University of California, Los Angeles; $1,000 toward the research of Kenneth E. Harper on the problem of mechanical translation of the Russian language

University of Illinois, Urbana; $5,000 for the program of research on the physiology and nutrition of insects under the direction of Professor G. S. Fraenkel, professor of entomology

University of Pennsylvania, Philadelphia; $10,000 for the purchase of research equipment for zoology

University of Washington, Seattle; $2,500 toward a project in mechanical translation and comparative semantics under the direction of Professor Erwin Reifler of the Department of Far Eastern and Slavic Languages and Literature

Washington University, St. Louis, Missouri:

$2,500 to provide a research associate to work with Professor Barry Commoner of the Department of Botany in his continuing study of plant genetics

$1,895 to cover the costs of a further visit at the university by Tuneo Yamada of the Biological Institute, Nagoya University, Japan; Mr. Yamada also plans to visit laboratories in Rochester, Woods Hole, and Chicago to observe work in the field of experimental embryology

URUGUAY

Ministry of Animal Industry and Agriculture, Montevideo; $1,600 to provide research materials for Herbert Trenchi for work in poultry pathology

WEST INDIES

University College of the West Indies, Jamaica:

$2,000 for melanogenesis research studies by Professor Norman Millott of the Department of Zoology

$6,000 for research expenses of Professor C. H. Hassall in the Department of Chemistry, for two years

OTHER

Fund totaling $5,000 for grants of small amounts for equipment, materials, travel, honoraria, and miscellaneous purposes, allotted under the supervision of the Director of the Division

DIVISION OF SOCIAL SCIENCES

DIVISION OF SOCIAL SCIENCES

STAFF DURING 1952

Director

JOSEPH H. WILLITS

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DIVISION OF SOCIAL SCIENCES

DIVISION OF SOCIAL SCIENCES

THE Rockefeller Foundation appropriated $4,366,835 during 1952 for its program in the social sciences. The aim of this program is to aid the growth of men and of knowledge in the social sciences and the application of such knowledge to human problems and needs.

For over 30 years the Foundation (and the former Laura Spelman Rockefeller Memorial) has supported efforts to build a more adequate scientific foundation for economic theory and for economic policy-making. Support has gone to many persons and many agencies, but the largest support — $5,227,000 — has gone to the National Bureau of Economic Research in New York. The Rockefeller Foundation regards its funds as venture capital and does not extend support to any one institution indefinitely. By a terminal capital grant of $2,000,000 to the National Bureau, the Foundation hopes not only to contribute to the continued effectiveness of this research institution but also to suggest to others the opportunity for investing capital sums in the bureau so that its basic work may be perpetuated and expanded.

An example of a new venture in economics is the establishment of the Basle Center for Economic and Financial Research at the University of Basle, Switzerland. A grant of $200,000 over a five-year period for a program of research and training in monetary

and credit economics at the center gives support to the scholarship and experience of Per Jacobsson, economic adviser to the Bank for International Settlements, and Professor Valentin Wagner of the University of Basle, codirectors of the center. In addition, the funds would enable the center to take advantage of the rich supply of information, knowledge, and experience available at the Bank for International Settlements — the central bank of the central banks of the different countries. This center is designed to become a laboratory in which both knowledge and students may grow through the study of economic problems at the highest level and in which practical effects of policies and efforts at international economic reconstruction may be traced.

A wide diversity seems to characterize the studies of interpersonal and intergroup relations for which grants were made during 1952. All are addressed to one issue: the problems of human behavior and relations involved in living and working together in a progressively more complex and integrated society. We no longer have the privilege of moving away from our problems and frustrations and taking up new land; most of us have to live in closely knit communities and work within integrated organizations. Thus, the study of the effect of differing patterns of supervision on employee productivity and morale in a large insurance company carried out at the Survey Research Center of the University of Michigan; or the study of social relations in a steel mill in Germany by the Dortmund Center for Social Science Research; or the study of intergroup hostility and harmony by Pro-

fessor Muzafer Sherif at the University of Oklahoma; or Miss Margaret Mead's study of the effects of modern social change on the natives of one of the Admiralty Islands, are all parts of one whole: the study of the effort of human beings to live and work together with some degree of success and understanding.

To avoid the holocaust of war and to find the way to honorable peace are among man's deepest yearnings. The responsibility belongs to all. Public officials have the burden for action, but they need all the light they can get and the backing of an informed citizenry. By supporting the work of thoughtful and objective scholars in the field of international relations, the Foundation is enabled to assist in the effort to bring a greater understanding of the issues confronting this country and the world. Thus, the grants to the Brookings Institution, the Council on Foreign Relations, and the Royal Institute of International Affairs aid scholars in the analysis of the great issues that confront us. Such scholars do not make the great decisions; that is the task of government and men of affairs. The efforts supported by the Foundation may be regarded as part of the service of intellectual supply to those who carry responsibility for action or teaching or interpretation in international affairs. In that sense, such grants serve to strengthen the strands that bind peace together.

Our economy, our human relations, our international relations, our social morality, and the growth of new scholars and scientists are fields to which Foundation grants in the social sciences during 1952 have been applied.

FUNCTIONING AND MANAGEMENT OF THE ECONOMY

UNIVERSITY OF BASLE

Monetary and Credit Economics

The Rockefeller Foundation, as mentioned above, has given $200,000 to the University of Basle, Switzerland, for the development of research and training in monetary and credit economics.

Since its establishment in 1930, the Bank for International Settlements in Basle has been intimately concerned with efforts to bring about European monetary reconstruction and general economic recovery. Its annual reports are followed with interest and respect by discriminating students of such subjects. The author of these reports, and a leading participant in many of the efforts at reconstruction, is Per Jacobsson, a Swedish economist and former member of the Economic Section of the League of Nations.

Mr. Jacobsson has recently found it possible to free himself from some of his work at the bank to act as codirector of a proposed research training center to be established under the auspices of the University of Basle. The other director, Professor Valentin Wagner, an economist from the University of Basle, is to share the active management of the center.

The first objective of the proposed center is to study the monetary problems involved in the more important financial and economic developments in the first half of the twentieth century. Many persons at the bank who were actively concerned with the

financial decisions of the interwar period and who held responsible positions during the years after World War II have expressed their willingness to give all the help they can to the work of the center. Mr. Jacobsson and Professor Wagner plan studies covering a wide range of topics, including the credit policies adopted by various continental European countries from 1946–1951; the efforts at economic recovery in particular countries since World War II; the techniques used by Schacht to aid Hitler, and the reasons for their early success and ultimate failure; the reasons for the downfall of the international Gold Standard, 1930–1934.

The second, but no less important, objective of the center is to provide advanced training for younger monetary economists by making available to them the wealth of data and wide personal knowledge and experience concentrated in Basle. This aspect of the work should contribute significantly to the development of future leaders in this branch of economics.

NATIONAL BUREAU OF ECONOMIC RESEARCH, NEW YORK

The Rockefeller Foundation in 1952 granted a capital fund of $2,000,000 to the National Bureau of Economic Research in New York, an exceptional grant made in lieu of further grants for general support of the bureau, which since 1922 has received $5,227,000 from the former Laura Spelman Rockefeller Memorial and The Rockefeller Foundation.

Since receiving its charter in 1920, the bureau has made an outstanding contribution to scientific economic research. Wesley Mitchell, the bureau's first

director of research, adopted no particular theory but laid out the fundamental research plan which the bureau has followed. This plan is based on the fact that the processes and elements of economic life are going through dynamic change, and that in order to understand the problems of economics, the central factors in these changes and their interrelations must be measured, and measured continuously.

The study of the distribution of national income was one of the bureau's first major undertakings. This led to research in related fields: distribution of national income by size and area, its composition, and changes that have taken place in the character of national income.

Another area of continuing inquiry is the study of business cycles. This was the field of Wesley Mitchell's particular interest, and under his leadership it became the subject of a series of investigations. This series was continued under Arthur F. Burns, who became director of research in 1945.

In addition to its program of research on national income and business cycles, the National Bureau of Economic Research studies many other subjects, including finance; money flows; the behavior of prices, of wages, and of savings; capital formation; employment; productivity; and international economic activities. Numerous special studies have also been made, in keeping with the bureau's policy of full cooperation with universities, government, business, and other social groups.

The 1952 capital grant from the Foundation is intended to assist the National Bureau of Economic

Research to maintain its effectiveness by enabling it to make research plans for a period of years ahead and to make long-term staff appointments.

UNIVERSITY OF MICHIGAN

Survey Research Center

A group of psychologists and economists in the Survey Research Center at the University of Michigan have conducted a long series of studies which seek information about economic behavior and intentions directly from individual consumers and investors. They are now making similar studies of owners of small businesses. Systematic analyses of such new types of empirical data are needed for the purpose of developing and testing economic theory. The Foundation has appropriated $52,400 to the University of Michigan for use by the Survey Research Center, during the period ending June 30, 1954, in analyzing its survey data relating to economic behavior.

Attention is focused on three areas: decision formation by consumers on spending, saving, and investing, and its relation to psychological and economic variables; decision making by businessmen, and its similarities to and differences from household decision making; stability and variability of economic behavior and attitudes under the impact of changing conditions. Special consideration will be given to effects of past experience, expectations, group influences, and so-called noneconomic motives on the decisions of consumers and businessmen as they affect and are affected by economic fluctuations.

HARVARD UNIVERSITY

Graduate School of Business Administration

With the aid of a five-year grant of $68,875 which The Rockefeller Foundation made to Harvard University in 1952, Professor John Lintner of the Graduate School of Business Administration at Harvard University is now undertaking a program of research on profits and the functioning of the economy.

Since the role and importance of profits can be understood only in terms of their effects, Professor Lintner is making an initial series of studies on the effects of profits on two major types or areas of business decisions. This group of studies will include a number of investigations in individual business firms of policies on replacement of plant and equipment, and of policy decisions involving new investments for expanded capacity for existing lines, or for the introduction of new products and entry into new markets. Actual and expected profits enter into all of these decisions, both as a source of funds and as incentives, but they do so in the context of many other factors and considerations, such as the company's competitive situation, market prospects, and so forth.

Further studies will be concerned with the role of profits in price-making and price-setting decisions by business firms in important industries. Profit considerations are of unquestioned importance in these decisions, but their influence is not as simple and direct as is often presumed in current economic theory.

Still another proposed group of studies, dealing more directly with profits themselves, will investi-

gate the effect of change in corporate income tax rates upon prices, wage rates, new investments, and other aspects of business operations. Since these taxes bear directly upon profits, an investigation of such questions may be expected to throw light on the role and significance of profits themselves.

INSTITUT DE SCIENCE ÉCONOMIQUE APPLIQUÉE, PARIS

In 1944 Professor François Perroux of the University of Paris founded the Institut de Science Économique Appliquée as an independent research organization. The institute is concerned with the study of current economic problems, the promotion of new research studies in the field of economic theory, and the exchange of ideas with professional economists in other countries.

The basic research program of the institute in recent years has been increasingly directed toward the study of social accounting. The theoretical studies carried out to date have brought to the attention of the staff the methodological work of the Cowles Commission, the National Bureau of Economic Research, Professor Leontief's group at Harvard, the Department of Applied Economics at the University of Cambridge, as well as that of groups in Oslo and The Hague, and have made clear the institute's urgent need to concentrate on the positive and methodological aspects of accounting and statistics. The work will be under the direction of M. Gilbaud, associate director of the institute, who has for the past three years devoted a large part of his time to this field. For this program The Rockefeller Founda-

tion made a 1952 grant of 8,750,000 French francs ($26,250) to the institute. Previous grants have amounted to more than $65,000.

UNIVERSITY OF PENNSYLVANIA

Population Redistribution and Economic Growth

Although numerous studies have been made of changes in industrial structure, of the movements of nation-wide aggregates (such as population, labor force, national product, and capital formation), and of the spatial and regional structure of the economy at a given, usually recent, point of time, no thorough study has been made for the United States that would combine a long look at the past with emphasis on the changing distribution in space. A study combining a long historical perspective with attention to shifts in space should result in a clarification of the problem and setting of economic growth in this country.

Under a grant in aid from The Rockefeller Foundation to the University of Pennsylvania in 1951, Dorothy S. Thomas, professor of sociology, and Simon Kuznets, professor of economics, initiated work on internal migration, emphasizing the historical and regional aspects of population movement, and, simultaneously, proceeded with explorations essential for planning studies on the multiple relationships in space distribution of capital (real and financial) and of economic production.

As a result of this preliminary work, Professors Thomas and Kuznets feel that a series of substantive studies of the movement and redistribution of

population resources in the United States in the process of economic growth is now warranted.

With a three-year grant of $112,000 from the Foundation in 1952, Professors Thomas and Kuznets propose to study the quantitative factors which are of central importance in affecting economic growth and development, as they have operated over time in the growth of this country. Specifically, they will undertake analysis of rural-urban shifts; evaluation and reconciliation of new data with previous results on interstate migration; substantive studies of the migration and redistribution of the labor force; and studies of changes in the distribution among various areas of the volume of economic activity and real capital formation by major industries.

The minimum and primary task of these studies would be to organize the basic data into consistent and comparable sets of estimates (reflecting systems of measurable concepts) suitable for analysis. Much of this work will be done by younger scholars, working under the supervision of Professors Thomas and Kuznets. Thus, apart from the importance of research emphasizing the interdependence of economic and population phenomena, this project will be of value to science and scholarship through assisting the growth of the young scholars who will be working under Professors Thomas and Kuznets.

HARVARD UNIVERSITY

Entrepreneurial History

The economists participating in the studies of the Research Center for Entrepreneurial History at

Harvard University are trying to analyze the role of the businessman in the economy of the United States and to develop an objective philosophy of business as a social function. The Research Center is the medium through which students of economic and business history from the various departments at Harvard, the Massachusetts Institute of Technology, and Wellesley College have come together for study and research. Under the chairmanship of Professor Arthur H. Cole, the center has already completed many studies of the role of the entrepreneur and has at the same time developed a core of personnel to carry on work in this relatively new field of research in economic history.

The Rockefeller Foundation has supported the Research Center since 1948 and in 1952 renewed its support with a five-year grant of $150,000. Within that period, the center proposes to develop and expand its scientific examination of changes and continuities in the functional relations between entrepreneurs and the structure and value systems of the societies in which they operate; to serve the varied and wide interests in economic history of members of the center; and to develop case studies in business ethics. The center will, in addition, continue to publish *Explorations in Entrepreneurial History*, a journal of informal discussion circulated both in the United States and abroad.

UNIVERSITY OF OSLO
Institute of Economics

Since the end of the war the Institute of Economics at the University of Oslo has concentrated on a pro-

gram of research and training related to current economic problems. Professor Ragnar Frisch, director of research, often counsels the Norwegian government in such matters, and some of the institute's work has been carried out in close cooperation with government and private organizations.

The institute is mainly concerned with the theory of economic policy and is attempting, through "repercussion studies," to analyze the interrelations between different economic variables and the way in which these might be taken into account by governments in formulating and applying economic policy.

An attempt is being made to present a statistically concrete description and analysis of the Norwegian economy. As a part of this work the institute hopes to complete this year individual analyses of Norwegian production, consumption, and financial structure and will make an effort to integrate these three phases.

The Rockefeller Foundation has made a one-year grant of $10,000 to support these studies, continuing contributions to the institute which started when the institute was founded in 1932.

STATE HISTORICAL SOCIETY OF COLORADO

Western Range Cattle Industry

The western range cattle industry played an important role in the opening and development of the American West. It enjoyed its greatest development following the Civil War and the extension of the Pacific railroads, and then almost vanished with the fencing and the conservation movement which developed early in the twentieth century. The records

of its cattle barons and of the English, Scotch, and Dutch companies which mingled railroad, utility, and cattle financing for about 50 years have been rapidly disappearing.

In 1944, under the sponsorship of the State Historical Society of Colorado, and with financial support from The Rockefeller Foundation, Herbert O. Brayer, then archivist of the State Historical Society, undertook to collect all existent documentary materials related to the founding and development of the range cattle industry in New Mexico, Colorado, Wyoming, and Montana. He wished to correlate such materials and to prepare a history of the western range cattle industry (1865–1895).

Mr. Brayer now plans to devote a full year to the completion of his investigations and to the preparation of the history of the cattle range era. For the costs involved in completing this study, The Rockefeller Foundation has appropriated $12,350 to the State Historical Society of Colorado; the society will permanently house all the material accumulated by Mr. Brayer in the course of his travels and research.

SIXTH SECTION, ÉCOLE PRATIQUE DES HAUTES ÉTUDES, PARIS

The Sixth Section of the École Pratique des Hautes Études in Paris, devoted to economic and social sciences, was organized in 1947 as a part of the school founded in 1868 by the French Minister of Education to provide France with an independent organization for research and teaching research methods.

The Sixth Section is planning a series of seminars which would focus attention of both professors and students on problems on the borderlines between various of the social science disciplines and would facilitate discussion of common methodological and research problems. In addition, a series of studies is planned in the field of economic history, which will attempt to provide an historical foundation necessary for a better understanding of business organization, of changes in the location of trade centers, and of price movements, credit, and crises. For these two projects The Rockefeller Foundation has provided 4,500,000 French francs ($13,500) to be used over a period of two and a half years.

SOCIAL SCIENCE RESEARCH COUNCIL

Study of Economic Growth

During the past three years the Committee on Economic Growth of the Social Science Research Council, New York, with Professor Simon Kuznets as chairman, has been primarily concerned with identifying the factors significant in influencing or impeding economic development and with examining the feasibility of specific research in respect to these factors. As the committee's investigations progressed, it became increasingly clear that what is required is a fundamental reanalysis of the hypotheses and assumptions underlying existing reports and studies on economic growth.

Professor Kuznets is now starting on this broad task by attempting to define the problem and its

setting. For this study The Rockefeller Foundation in 1952 made a five-year grant of $35,000 to the Social Science Research Council.

Professor Kuznets will inquire into the course of and factors in the economic growth of nations, particularly in the period extending from the end of the eighteenth century to the present. A substantial portion of his time will be spent on a systematic review of the existing literature and of successive trial formulations of different research approaches. The explorations will be pursued not only on the level of quantitative measurements (which must necessarily be limited to a restricted segment of the period and a small number of nations), but also on the level of accounts of historical changes of social and economic institutions and of hypotheses advanced as to the determining factors.

VANDERBILT UNIVERSITY

Institute of Research and Training in the Social Sciences

The Rockefeller Foundation has appropriated $112,000 to Vanderbilt University, Nashville, Tennessee, for use by the Institute of Research and Training in the Social Sciences toward the costs of research in agricultural economics and the organization of industry, during the five-year period beginning July 1, 1952.

The Institute of Research and Training is under the direction of Professor George W. Stocking. The institute proposes to undertake a five-year program

of research in each of two areas: the economics of agriculture, with particular reference to the South; and the organization and control of industry. The agricultural economics project, under the direction of Professor W. H. Nicholls, will begin with an intensive economic analysis of several groups of contiguous southern counties, in order to test such hypotheses as the significance of labor supply and of capital influx in the contrasting economic developments in these counties. An attempt will be made to integrate the resulting detailed studies, to relate them to an over-all theory of economic development, and to examine: 1) the extent to which public policies on farm prices and income, farm credit, and extension programs are consistent with regional economic progress; and 2) how public policies toward agriculture, industry, and labor might be revised to provide for more rapid and even economic development in the South.

The industry studies, under the direction of Professor Stocking, will be concentrated in two areas: the relationship of the structure and control of industry to business behavior; and public policy toward business. Some of the specific studies planned will be concerned with: 1) managerial efficiency and corporate decision making under centralized and decentralized managements; 2) relative changes in the value of assets controlled by a selected number of large industrial corporations; 3) the regional significance of the organization, structure, and pricing policies of American industries; 4) the relation of trade union growth to the structure of southern in-

dustry; 5) the role of state incorporation legislation in the concentration and control of industry.

ROYAL INSTITUTE OF INTERNATIONAL AFFAIRS

Theory of International Economic Policy

A grant of $4,960 was made in 1952 to the Royal Institute of International Affairs in London to support Professor James E. Meade's study of *The Theory of International Economic Policy*. Professor Meade, wartime head of the Economic Section of the British War Cabinet, has already completed *The Balance of Payments*, the first volume to result from his study. Volume II, *International Trade, Migration, and Investment*, will cover the whole complex of problems involved in the application of modern theories of economic welfare to problems of international trade and international factor movements. In connection with his research for this volume, Professor Meade spent the summer of 1952 in the United States, to pursue his investigations and to discuss his work with leading American economists engaged in the same field of inquiry.

ECONOMIC COMMISSION FOR EUROPE,
UNITED NATIONS

Long-Run Tendencies in the European Economy

With assistance from The Rockefeller Foundation, the United Nations Economic Commission for Europe, in Geneva, during the past three years has sponsored a study of trends in the European economy over the years 1913–1950. Professor Ingvar Svennilson has directed comprehensive research into sub-

jects which include population trends and industrialization; trends in manpower and production; the influence of foreign trade on production; the main factors of economic growth; and conclusions on a) failure of the prewar development of the European economy and b) potentialities for the postwar period.

In addition to the main study of trends in the European economy, Professor Svennilson has gathered supplementary material for studies of three major industries — steel, cement, and rubber.

The study is now nearly completed. A grant of 21,000 Swiss francs ($5,000) from The Rockefeller Foundation is to be used for the final phases of revision and editing.

UNIVERSITY OF CHICAGO

Public Administration

The Rockefeller Foundation gave a five-year grant of $25,000 to the University of Chicago in 1952 toward the costs of the fourth volume of Professor Leonard D. White's *History of Public Administration in the United States.*

The progress of Professor White's project, initiated in 1940, was considerably delayed by the war. The first volume, *The Federalists: A Study in Administrative History*, published in 1948, dealt with the foundations of the national administrative system and with the precedents and traditions fixed largely by Washington and Hamilton. The second volume, *The Jeffersonians: A Study in Administrative History, 1801–1829*, published in 1951, established the substantial continuation of Federalist organization and

standards in the conduct of government business under Jefferson, Gallatin, Calhoun, and John Quincy Adams. The third volume, *The Jacksonians: 1829–1861*, which is scheduled for completion in 1953, will analyze the consequences of manhood suffrage and the national organization of parties upon the administrative system.

In the fourth volume of this series, Professor White plans to cover certain aspects of the administrative history of the United States from 1873–1933, including the rise of administrative regulation of the national economy; the influence of scientific management and large-scale business organization and methods upon governmental agencies; the impact of moral reform and the reformation of the executive office; the influence of mass communication in an increasingly impersonal society; and other trends reflecting the adjustment of government to factors of magnitude and complexity far beyond those of a simpler age. It is expected that this fourth volume will add new value to each of the preceding three by tracing into the contemporary world the forces they reveal.

HUMAN BEHAVIOR AND INTERPERSONAL AND INTERGROUP RELATIONS

UNIVERSITY OF MICHIGAN
Survey Research Center

As a part of its human relations program, concerned with the discovery of social-psychological principles governing organizational effectiveness, the

Survey Research Center at the University of Michigan has conducted a two-year experiment in a large insurance company.

This experiment was designed to throw light on the question of whether in our culture man is most productive and happy in the social groups which offer him the broadest opportunities for participation and control. With a view to finding out more about the effects of methods of control in organizational functioning, the location of regulation and control was moved upward in selected sections of employees and downward in carefully matched sections. A great deal of information about all participants was collected before, during, and after the experiment through questionnaires, interviews, and observation. After the experiment it was ascertained that production had increased in both groups of sections, but investigators suspect that quite different patterns of motivation, with very different long-run implications, account for the increased production in each group.

The Rockefeller Foundation has made available the sum of $32,250 until July 1954, for use by the Survey Research Center in further analysis of the data from this experimental study. An attempt will be made to answer such questions as: What are the major effects of the contrasting supervisory programs on the motivation patterns and morale attitudes of both supervisors and workers? How do individuals differ in their response to each program, and what personality or other differences are related to these responses? By what specific procedures was the loca-

tion of regulation and control shifted in each direction and how successfully were the shifts actually carried out?

The final report will describe the entire experiment, including the historical setting of the problem, the theoretical orientation and design of the study, the procedures by which it was carried out, and the results and their implications.

DORTMUND CENTER FOR SOCIAL SCIENCE RESEARCH, GERMANY

At the close of World War II the Dortmund Center for Social Science Research was established in Germany for the study of labor relations and community problems in the Ruhr area. The center is currently undertaking a sociological study of a steel mill and the community in which it is located. As a contribution to this investigation The Rockefeller Foundation has given the Dortmund Center 101,893 German marks ($25,500) for use through 1954.

The center has recently completed a study of workers in a Ruhr valley coal mine and the community in which they live. The new study, similar in intent, will benefit from the experience gained in the coal mine study. The new investigation will attempt to analyze relationships among personnel in the steel mill, giving special attention to sources of indifference and of tension. This will be complemented by a study of social relations in the community and their influence on behavior in the plant. The research team

of sociologists and student assistants is headed by Mr. Carl Jantke, who also directed the study of the coal mine.

UNIVERSITY OF OKLAHOMA

Intergroup Relations

Professor Muzafer Sherif of the University of Oklahoma conducted an unusual experiment a few years ago on the development of hostility and conflict between social groups. Working with boys in a summer camp, he divided initially friendly boys into rival groups and showed how hostile attitudes developed between the rival groups and how the social relationships within and between these groups stimulated and intensified these attitudes.

Professor Sherif is now undertaking a similar experiment in which he will repeat the procedures of the first experiment and then attempt to develop harmony and cooperation between the hostile groups. The Rockefeller Foundation has made a grant of $38,000 for this two-year study, which is intended to contribute to better understanding and control of factors conducive to tension and hostility in group relations on the one hand, and to harmony and cooperation on the other.

AMERICAN MUSEUM OF NATURAL HISTORY

Social Change

Twenty-five years ago Miss Margaret Mead, associate curator of ethnology of the American Museum of Natural History, New York, made an anthropo-

logical study of a village on Manus, one of the Admiralty Islands. The findings were reported in her widely read book, *Growing Up in New Guinea.*

Miss Mead now plans a restudy of the community to provide a detailed picture of the effects on the Manus society of the social changes which have occurred during the past quarter century, changes which include the introduction of Christianity, the impact of World War II, and the development of a postwar nativistic movement. Individuals studied as children 25 years ago will be relocated, their relationships to each other re-examined, and their positions in the changing social scene intensively studied.

These social changes among the Manus are in many respects related to those experienced by peoples throughout Southeast Asia and Oceania, and Miss Mead's study of the impact of social change on the Manus community is expected to prove useful in understanding the larger picture.

The Rockefeller Foundation made a 1952 grant of $26,000 to the American Museum of Natural History toward the expenses of this study. The grant is available until October 1955.

MIAMI UNIVERSITY

Scripps Foundation for Research in Population Problems

Included in the 1952 grants of The Rockefeller Foundation was a five-year appropriation of $98,500 to Miami University, Oxford, Ohio, for studies of

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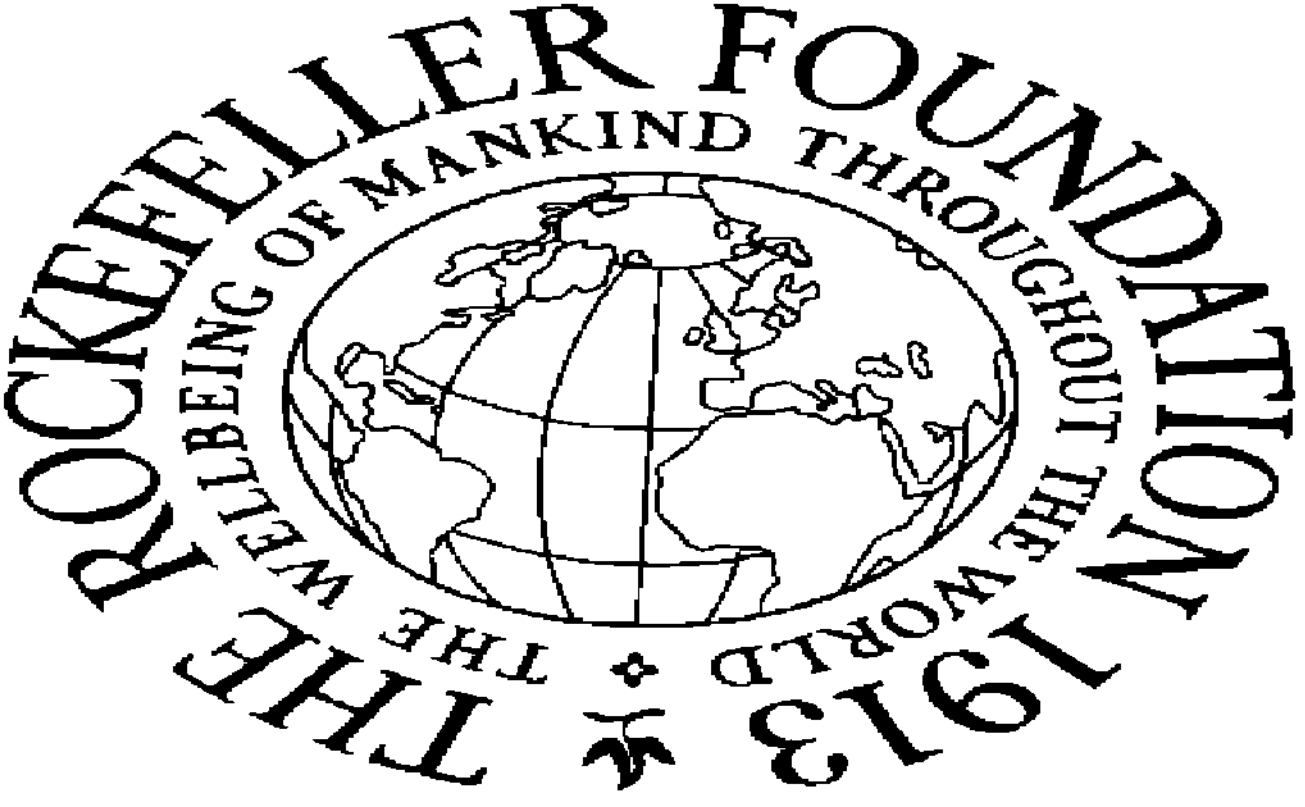
Preparing statistical data for analysis at the Scripps Foundation for Research in Population Problems, Miami University, Ohio

Staff conference on business cycles, National Bureau of Economic Research, New York



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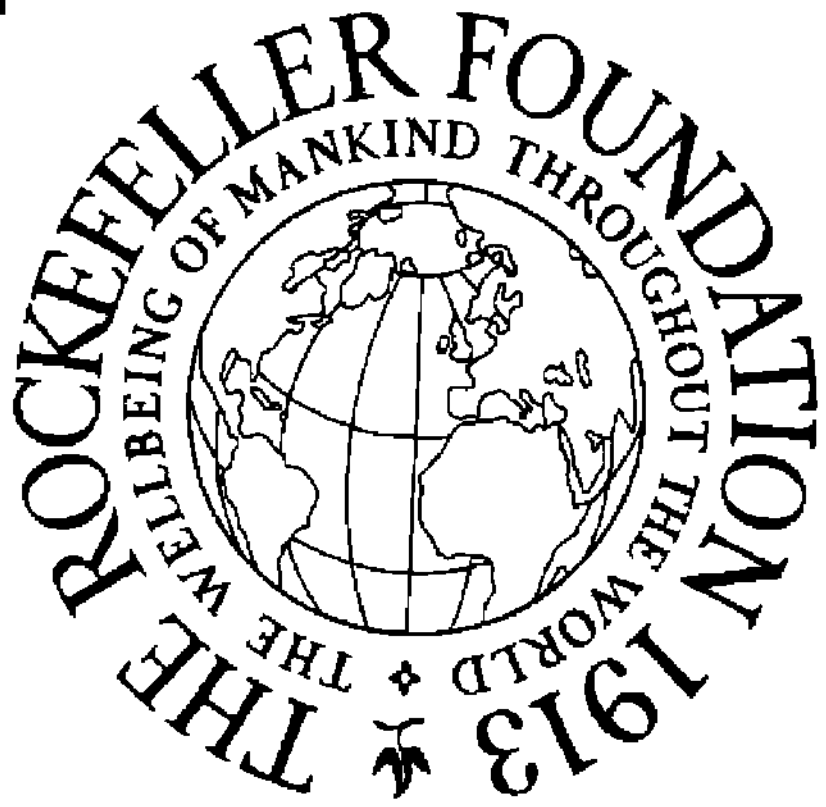

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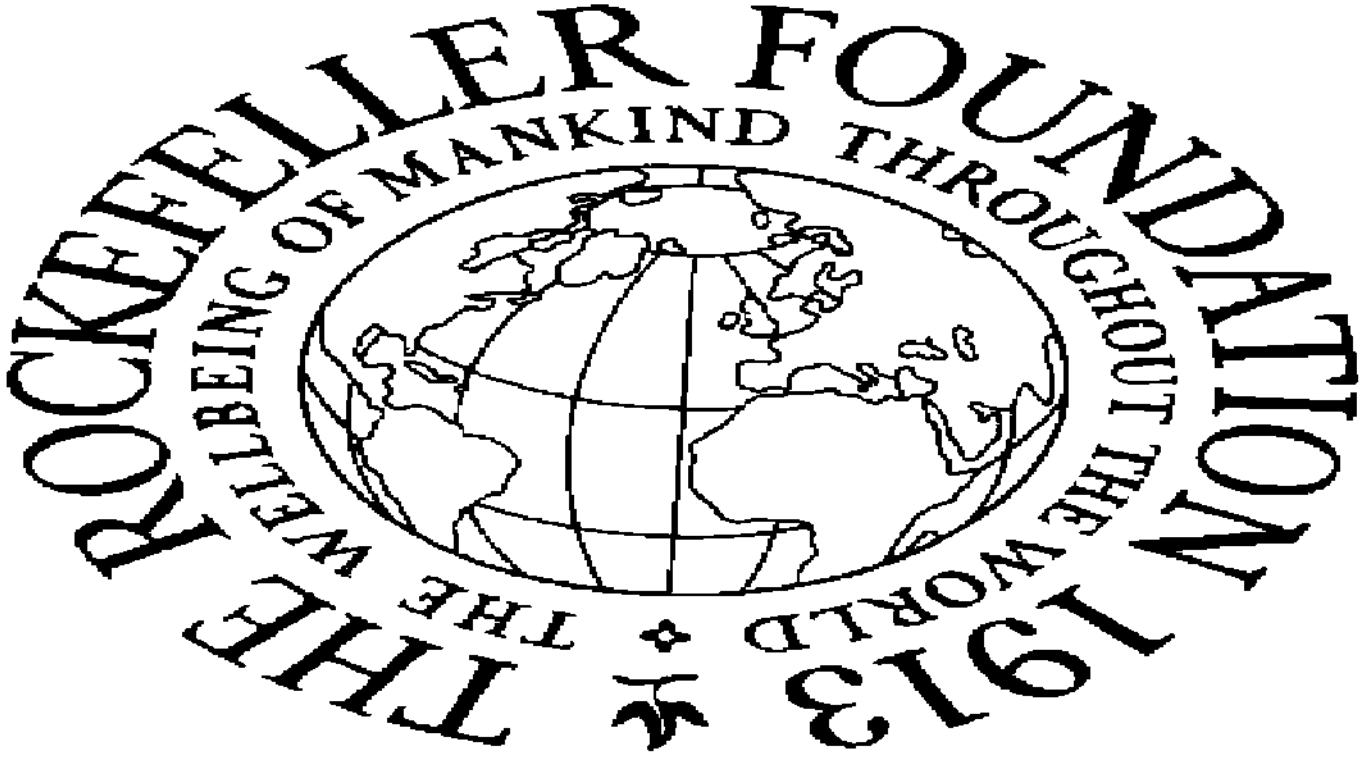
A seminar in Near Eastern studies at Princeton University

Memorial Library of the Winterthur Museum, which collaborates in the University of Delaware's American studies program



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population redistribution by the Scripps Foundation for Research in Population Problems.

Under a current Foundation grant, Professor Warren S. Thompson and Donald J. Bogue have succeeded in laying out a new area of research in the field of population distribution and in carrying out a number of studies which have been influential in stimulating and guiding similar research elsewhere. On the basis of detailed analyses of data for every county in the United States, they have worked out relatively homogeneous socioeconomic regions, subregions, and areas. These have been adopted by the Bureau of the Census and will be used in future tabulation programs.

During the next five years the Scripps Foundation plans to complete a number of major studies and to get research in this area more firmly established in governmental and academic circles.

Among the projects planned or in progress are a description of population distribution and redistribution in the United States through the 1950 census period; a general treatise on internal migration in the United States; the development of new methods for studying complex population variables in relation to migration and population distribution; an analysis of the comparative roles of migration and fertility in population growth and distribution, especially in metropolitan areas; special analyses of the development of metropolitan areas and the processes of suburbanization; the development of methods for studying changes in the labor force and move-

ments of workers by analyzing data regularly compiled by the Bureau of Old Age and Survivor's Insurance; and special studies of differential migration in different types of economic regions.

SOCIAL SCIENCE RESEARCH COUNCIL

Census Monographs

Every decade the federal government takes a nation-wide census in which it collects a wide range of important statistical information about the American people. Much of this information is published in a series of census reports which present the tabulations but contain very little analysis and interpretation of the raw data. There is need for a series of substantial analytical monographs on subjects of major importance.

During the latest census the Social Science Research Council worked out detailed plans for such a series, to be based on data collected in 1950. The council appointed a Committee on Census Monographs to work with the Bureau of the Census in selecting the topics of greatest significance. Mr. Ralph Hurlin was chairman of the committee, which settled on 22 topics for monographs. The topics include aged population; differential reproduction; social characteristics of farm, village, town, and urban populations; structure of American agriculture; utilization of housing inventory; trends in manufacturing; and residential financing.

As one of the contributors to the costs of preparing the census monographs, The Rockefeller Foundation

in 1952 gave $50,000 to the Social Science Research Council, for the period ending September 30, 1955.

MAYOR'S ADVISORY COMMITTEE FOR THE AGED, NEW YORK

A grant made in 1951 by The Rockefeller Foundation to the Mayor's Advisory Committee for the Aged in New York City was used to establish a Subcommittee on Research. This committee has surveyed problems and collected data on the care of the aged in New York City, consulted with public and private welfare agencies, and sought to stimulate special attention to the problems of the aged.

A final grant of $10,000 to the Mayor's Advisory Committee for the Aged was given in 1952 for the work of its Subcommittee on Research.

UNIVERSITY OF CHICAGO

W. F. Ogburn

The Warden and Fellows of Nuffield College are attempting to establish sociological teaching and research at the University of Oxford, England. During an introductory period they are inviting distinguished sociologists to help develop a research and training program in this field.

A grant of $12,150 made by The Rockefeller Foundation to the University of Chicago will enable Professor William F. Ogburn to respond to the invitation to spend a total of one academic year during the next two years at Nuffield College as visiting professor of sociology. The grant is available until August 1954.

INTERNATIONAL RELATIONS

BROOKINGS INSTITUTION

The position of the United States as a major power in the world requires the development within the government of a consistent and flexible framework of basic foreign policies, the existence of an informed and intelligent public opinion, and the availability of an adequate reservoir of trained American specialists in all phases of the conduct of foreign relations.

Through a program of research and education in the field of international relations, initiated at the end of World War II, the Brookings Institution in Washington, D. C., plays an important role in supplying these needs. A staff of specialists, organized into an International Studies Group, under the direction of the late Leo Pasvolsky, is engaged in an examination of major problems that must be dealt with by the United States government in the conduct of foreign relations. As a part of this program, the institution publishes an annual volume entitled *Major Problems of United States Foreign Policy*. Another facet of the international relations program is a series of national and regional seminars on United States foreign policy. These seminars have brought together teachers in international relations, officials of the Department of State and other government agencies, and representatives of the armed services, business, labor, and agriculture.

The major new research planned by the institution is a series of studies of the basic framework of inter-

national relations. This series will include analysis of basic concepts and objectives of the major nations, analysis of the channels and instrumentalities of national action in international relations, and a synthesis of findings.

The former Laura Spelman Rockefeller Memorial and The Rockefeller Foundation have been contributors to the Brookings Institution since 1925, with grants totaling more than two million dollars. This support has been continued with a 1952 grant of $225,000, available over the next three years for the program of research and education in the field of international relations.

ROYAL INSTITUTE OF INTERNATIONAL AFFAIRS

In the field of international relations, two grants totaling $74,750 were made during the year 1952 to the Royal Institute of International Affairs in London. The larger of these was a three-year grant of £23,000 ($69,000) to be used for the completion and preparation for publication of a *History of the War and Peace Settlement*. The Royal Institute's annual publication, *Survey on International Affairs*, was discontinued at the outbreak of World War II. In the belief that the history of the ten crucial years from 1939 to 1949 could be better written as a whole and in perspective when access to official information was easier, it was decided after the war to complete the history of this period before resuming annual publication of the *Survey*. Under the direction of Professor Arnold J. Toynbee, the institute's director of research, writers are engaged in the preparation

of 12 narrative volumes, each to be accompanied by another containing historical documents.

A second grant of $5,750 was made in support of the joint study on British-American relations undertaken in 1951 by the Royal Institute and the Council on Foreign Relations, Inc., in New York. Study groups from each organization are preparing reports on these subjects of mutual interest: direct relations between the United States and the United Kingdom; attitudes toward the United Nations; the sterling-dollar issue; the interplay of domestic and foreign politics and opinion; British and American policies on defense, on Western and Eastern Europe, the Soviet Union, the Near and Middle East, South and Southeast Asia, and the Far East. A meeting of representatives of the two groups was scheduled for 1952, preceding the publication of a joint report on the findings of each study group. The Foundation last year gave the Council on Foreign Relations, Inc., $16,000 for the initial work on this study.

COUNCIL ON FOREIGN RELATIONS, INC.

Since 1928 the former Laura Spelman Rockefeller Memorial and The Rockefeller Foundation have appropriated $1,118,000 to the Council on Foreign Relations, Inc., of New York for its general research program and special research projects. To this the Foundation has now added a two-year grant of $22,000 for two current council undertakings.

The Council on Foreign Relations has formed a study group to examine the serious problems raised by the partition of Germany after World War II;

the political, economic, and social factors which interfere with German reunification; and the relation of the problem of German unity to efforts to integrate Western Europe. President George Shuster of Hunter College is chairman of the group, and Professor Carl Schorske of Wesleyan University, a specialist in modern German history, is rapporteur. Most of the members of the study group have been concerned in one way or another with United States policy toward Germany.

The second project for which Foundation funds are available is the *Foreign Affairs Bibliography, 1942–1952*. When completed, this will contain more than 10,000 titles in some 40 different languages covering the fields of international politics, economics and finance, contemporary history, diplomacy, geography, social and military problems, and many other related subjects. This bibliography will constitute the third in the council's series, the two earlier ones having covered the years 1919–1932 and 1932–1942.

UNIVERSITY OF NOTRE DAME

International Relations

Under a 1949 grant from The Rockefeller Foundation to the University of Notre Dame, a five-man Committee on International Relations has been directing research on the interrelations of religion, democracy, and international order, with special attention to the rise of the political religions of the twentieth century and their relations with traditional religious groups. With Professor Waldemar Gurian

as chairman, the committee has actively sought to increase student and community interest in international relations through the organization of symposia, public lectures, discussions, and seminars.

The Foundation has now renewed its support of the research program at the University of Notre Dame with a three-year grant of $69,000. The committee plans to continue its symposia and lecture activities and to expand its research program by inaugurating a cooperative research project on the philosophy and ethical basis of international relations. Individual studies will be combined with cooperative analyses of historical and contemporary systems of international relations in an attempt to increase understanding of the following factors in the present world situation: the emergence of the United States as the leading world power; tension between the United States and the Soviet Union; rising opposition to the European heritage of colonialism; the search for new methods in organizing relations between powers and units of civilization in the present world with its constant technological changes; and the spiritual and intellectual crisis which appears to threaten the Christian heritage and human values of European civilization.

Experts who have cooperated with Professor Gurian's committee in the past will be asked to contribute to the enlarged program through lectures and research papers. The committee will also invite distinguished scholars and experts from universities, the Department of State, and other governmental agencies to assist in clarifying particular problems.

SWARTHMORE COLLEGE

Good Neighbor Policy

The Rockefeller Foundation in 1952 made a grant of $4,900 to Swarthmore College, Pennsylvania, for use until October 1954 for the completion of a study of the Good Neighbor Policy of the United States by Professor Bryce Wood.

With the assistance of a $3,000 grant from the Foundation, Professor Wood started his analysis of the Good Neighbor Policy while on sabbatical leave from Swarthmore College during 1950–1951. He is now with the Social Science Research Council and is continuing his comprehensive research into the origins, growth, implementation, reception, and effectiveness of the policy in the period 1933–1948. The new Foundation grant will enable Professor Wood to continue his research on documents of the Department of State and to visit Latin America to check documentary and other sources.

STANFORD UNIVERSITY

Hoover Institute and Library

Under the direction of Professor Harold H. Fisher, director of the Hoover Institute and Library on War, Revolution and Peace at Stanford University, a small research group is completing two documentary histories which are expected to contribute to our understanding of Soviet history and policy.

The first of these studies is a *Documentary History of the Organization of the Comintern and the Beginnings of the World Communist Movement;* the second is entitled *Documentary History of Soviet Diplomatic*

Relations. The documentary materials for both histories have been selected, and the necessary translations into English have been made from Chinese, Japanese, Turkish, Russian, and other languages. For the final phases of research and editorial work, The Rockefeller Foundation in 1952 made a grant of $12,500 to Stanford University.

NATIONAL FOUNDATION OF POLITICAL SCIENCES, PARIS

The purpose of the National Foundation of Political Sciences in Paris is to promote research and teaching in the social sciences. In 1948 the development of a section on international relations was initiated, and a grant from The Rockefeller Foundation provided for visits to France by several foreign experts in the field. Since 1950 grants from the Foundation have enabled the National Foundation to acquire maps and other library materials from the United States, and to establish a new library section devoted to international relations. A two-year grant of $2,000 to the National Foundation in 1952 provides continued aid in purchasing foreign library materials.

MORAL AND SOCIAL PHILOSOPHY

NATIONAL COUNCIL OF THE CHURCHES OF CHRIST IN THE UNITED STATES OF AMERICA

Department of the Church and Economic Life

The Department of the Church and Economic Life of the National Council of the Churches of Christ in the United States of America, with the aid of a

grant made by The Rockefeller Foundation in 1948, has been conducting a program of discussion and studies designed to relate Christian principles and insights to the complex and technical nature of modern economic life. Professional economists and other social scientists, as well as practicing businessmen and leaders of labor and farm organizations, have shown great interest in discussing the knotty moral and ethical problems presented in the operations of our economy. At the same time, religious leaders and theological scholars have welcomed tough-minded discussions of present-day economic realities and the difficulties they impose on the application of general principles of Christian morality.

The series of discussions and studies has been organized and carried through under the chairmanship of Charles P. Taft and Arthur S. Flemming, with the professional direction of the Reverend A. Dudley Ward and Professor Howard R. Bowen. The following six volumes are being prepared for publication: *Goals of Economic Life; The American Economy and the Lives of the People; Social Responsibilities of Businessmen; Organized Economic Groups in Modern Economic Life; Consumption, Income, and the Standard of Living;* and *Christian Ethics and Economic Life.*

Three aspects of the work already started are particularly in need of further development: 1) investigation of individual motivations, goals, attitudes, and ethical problems, with reference to personal and group aspects of modern economic life; 2) local group discussions and conferences as techniques for

collecting data, stimulating interest, and developing understanding of the complex problems dealt with by study; 3) social responsibilities of participants in economic life other than businessmen, especially organized labor and agricultural groups, professional groups, and government officials.

The Rockefeller Foundation made a terminal grant of $125,000 toward the costs of this program during the three-year period beginning September 1, 1952.

COLUMBIA UNIVERSITY PRESS

On Social Survival

In 1946 The Rockefeller Foundation made funds available to the Institute for Advanced Study, Princeton, New Jersey, to enable Professor John Lindberg to complete his work on the theory of value formation in society. A grant of $2,200 was made in 1952 to the Columbia University Press toward the costs of publishing the resulting book, *On Social Survival.*

Professor Lindberg is a Swedish economist, formerly with the International Labor Office and with the Economic, Financial and Transit Department of the League of Nations. More recently he has been a member of the United Nations Missions on Technical Assistance to Bolivia and Libya.

CORNELL UNIVERSITY

Civil Liberties Study

Since 1948 The Rockefeller Foundation has given support to Cornell University for a series of studies

on the relation of civil rights to the control of subversive activities in the United States. Under the direction of Professor Robert E. Cushman, the project is now drawing to a close. Professor Cushman will summarize the findings of his group in a book tentatively entitled *National Security and the American Tradition*. Before this appears, however, three final books in a series of eight are scheduled for publication: *The States and Subversion*, edited by Professor Walter Gellhorn of Columbia University; *The House Committee on Un-American Activities*, by Professor Robert Carr of Dartmouth; and *The Loyalty Program*, by Miss Eleanor Bontecou.

In support of the final phase of this study on civil rights, The Rockefeller Foundation made a 1952 grant of $3,500 to Cornell University.

UNIVERSITY OF MANCHESTER

Michael Polanyi

The sum of $12,000 was appropriated in 1952 to the University of Manchester, England, to support over a three-year period the research of Professor Michael Polanyi.

Professor Polanyi, first identified with the field of chemistry, in the late 1930's turned from the natural sciences to economic and social studies. He has since devoted himself to the social sciences and social philosophy and has written *Contempt of Freedom*, *The Logic of Liberty*, and *Science, Reason and Society*.

DEVELOPMENT OF SOCIAL SCIENCE TALENT

McGILL UNIVERSITY

Institute of International Air Law

The Institute of International Air Law at McGill University, Montreal, was established in 1951 under the directorship of Professor John C. Cooper, formerly vice-president and general counsel of Pan American Airways. The purpose of the institute is to provide facilities for advanced study in international air law for qualified graduates in law, and at the same time to provide an academic organization for fundamental research in this field.

Students from China, Egypt, Germany, Great Britain, Greece, and Hungary, as well as the United States and Canada, have been working in seminars and individually on two specific problems arising from the Chicago Convention of 1944: the legal status of flight space and the extent of territorial or other rights of subjacent states to control its use; and the legal status of flight instrumentalities and the concept of "nationality."

The Rockefeller Foundation made an appropriation of $12,000 to McGill University toward the travel and living expenses of foreign students at the institute, during each of the academic years 1952–53 and 1953–54.

ECONOMIC COMMISSION FOR EUROPE, UNITED NATIONS

In-Service Training Scholarships

Through the financing of in-service training scholarships at the headquarters of the United Nations

Economic Commission for Europe at Geneva, Switzerland, The Rockefeller Foundation for four years has contributed to the training and encouragement of young economists from countries such as Turkey, Greece, Austria, and Germany, where facilities for economics training are inadequate.

The staff of the commission, composed of an international group of competent, mature economists, furnishes excellent training opportunities for these students. This training involves an unusual combination of research and practical experience by enabling graduate students to learn research techniques from mature people working on specific problems of national and international significance.

Since 1948 the Foundation has appropriated $33,000 to the Economic Commission for Europe for these scholarships. To this sum is now added a grant of $29,000 for the maintenance and travel expenses of the selected scholars until the middle of 1954.

CANADIAN SOCIAL SCIENCE RESEARCH COUNCIL

The Canadian Social Science Research Council, which maintains its headquarters in Ottawa, provides for Canadian universities and scholars similar services to those provided by the Social Science Research Council in the United States. The council, currently under the chairmanship of Professor Jean-Charles Falardeau, is sponsored by four professional agencies: the Historical Association, the Committee of the International Geographic Union, the Political Science Association, and the Psychological Association.

The Rockefeller Foundation has provided funds for the council since 1942 and in 1952 renewed this

support with a grant of C$172,500 ($176,000) for a period of three years. This fund, as in the past, will be used toward the costs of the council's program of research, publication, and special projects, and for awards of predoctoral fellowships and professorial leaves.

GRANTS IN AID

By some 71 grants in aid The Rockefeller Foundation in 1952 supported the research and activities of social scientists in 13 countries. These grants in aid, the largest of them for $10,000, were made chiefly for research assistance of various kinds and for travel to permit conduct of research and communication with professional colleagues abroad.

The largest number of grants in aid, 24 in all, was given to institutions in the United States. The total value of the grants in aid listed below amounted to $255,357.

CANADA

University of Toronto; $5,000 toward the cost of assembling, typing, and organizing the unpublished materials of the late Professor Harold A. Innis

FRANCE

École Polytechnique, Paris; 2,800,000 French francs (approximately $8,400) for the salaries of two assistants in the econometric and statistical laboratory and for special research expenses in connection with its work in inter-industrial economy, under the direction of Professor François Divisia

International Economic Association, Paris:

$1,500 toward the cost of preparing the second volume of *International Economic Papers*

$1,297 toward the travel expenses of delegates to the Conference on Trade Cycles in Oxford, England

International Political Science Association, Paris; $4,000 toward the travel expenses of delegates attending the association's second congress in The Hague

Professor Jan Marczewski, University of Caen; $2,250 to visit the United States to study techniques in national income analysis

Pierre Métais, Musée de l'Homme, Paris; 500,000 French francs (approximately $1,500) to revisit New Caledonia in connection with a study of the effects of Westernization on its native culture

National Foundation of Political Sciences, Paris; 400,000 French francs (approximately $1,200) toward the administrative expenses of its new Department of Research on Economic and Social Conditions

GERMANY

Rudolf Binder, Institut für Weltwirtschaft, University of Kiel; $4,000 to visit the United States in connection with his study of American public finance and taxation policy

Institute of Economics and Social Science, University of Münster; 8,000 German marks (approximately $2,000) in support of Herbert Giersch's research on the problems of economic growth

Soziographisches Institut, Frankfurt; $9,500 to continue support for the institute's research program in sociology

University of Cologne; $3,800 for the use of the Department of Sociology in meeting the costs of preparing a series of

German handbooks on research methods in the social sciences

University of Heidelberg; $5,000 for the use of the Alfred Weber-Institut für Sozial- und Staatswissenschaften, for research on political parties

GREAT BRITAIN

Professor F. A. Burchardt, director of the University of Oxford Institute of Statistics, England; $1,100 for expenses while visiting universities and research centers in the United States to establish cooperation between these and the institute

Professor Michael P. Fogarty, University College, Cardiff, Wales; $900 for European travel in connection with his study of the European Christian-Social Movements

Mrs. Margaret Hall, Somerville College, University of Oxford, England; $2,200 to visit the United States in connection with her work on the comparison of trading techniques in the United States and the United Kingdom

Professor E. M. Hugh-Jones, Keble College, University of Oxford, England; $3,900 to visit the United States to study the American system of social security

London School of Economics and Political Science, University of London, England; 1,400,000 French francs (approximately $4,200) toward the costs of a study of the recruitment of the French higher civil service to be carried out at the Centre d'Études Sociologiques in Paris under the direction of Thomas B. Bottomore

Alexander Loveday, Warden of Nuffield College, University of Oxford, England; $2,000 for expenses while visiting American universities

H. G. Nicholas, New College, University of Oxford, England; $2,675 to visit the United States to study the 1952 presidential campaign and election

Alan T. Peacock, London School of Economics and Political Science, University of London, England; $2,500 to visit the

United States to study American teaching and research methods in the field of public finance

Scottish Council for Research in Education, Edinburgh; £1,000 (approximately $3,000) for use by its Mental Survey Committee in completing a follow-up study relating to Scottish intelligence

University of Nottingham, England; £2,400 (approximately $7,200) toward the costs of research on the cultural background of delinquency, under the direction of Professor W. J. H. Sprott

HONG KONG

University of Hong Kong; $500 toward expenses of a summer study trip to North Borneo by Professor E. S. Kirby

INDIA

V. V. Bhatt; $445 toward the final expenses of his study at Harvard University and his return travel to India

Indian Council of World Affairs, New Delhi; $1,500 toward travel and maintenance expenses of M. S. Rajan, administrative assistant to the secretary general of the council, to permit him to meet with potential collaborators in Japan, the Philippines, Indonesia, and Burma en route from the United States to India

School of Social Work, University of Baroda; $1,200 for the purchase and shipment of books and journals

School of Social Work, University of Delhi; $1,200 for the purchase and shipment of books and journals

ITALY

Società Italiana per la Organizzazione Internazionale, Rome; 1,200,000 lire (approximately $2,400) for the preparation of a critical edition of the works of Dionisio Anzilotti

University of Florence; 900,000 lire (approximately $1,500) in support of Elio Conti's research on the social structure of fifteenth-century Florence

JAPAN

Doshisha University, Kyoto; $500 toward the expenses of a visit by Martin W. Bronfenbrenner, professor of economics at the University of Wisconsin, for the purpose of lecturing on contemporary Western economic thought

Dean Yokichi Hayashi, Waseda University, Tokyo; $580 to enable him to study the organization and operation of summer schools in the United States

Japan Political Science Association, Tokyo; $1,400 toward expenses of a supplementary European study tour by Shigeru Nambara, following his attendance at the World Congress of the International Political Science Association at The Hague

Kyoto University; $600 for the purchase and shipment of Western books in economics

National Diet Library, Tokyo; $1,500 for the purchase and shipment of American books in the social sciences

Research Institute of Population Problems, Tokyo; 954,000 yen (approximately $2,650) toward the completion, tabulation, translation, and publication in English of a factual survey of fertility and family limitation practices in Japan

NETHERLANDS

Netherlands Institute for Social Research, Amsterdam; 25,000 Dutch florins (approximately $6,600) toward the expenses of a study of social stratification and mobility in the Netherlands

Netherlands Society for International Affairs, The Hague: $1,800 toward the costs of A. M. Brouwer's study of the basic elements of the cultural unity of Europe

$3,000 toward the costs of Wilhelm Verkade's research on democratic control within political mass parties on the European continent from 1920 to 1950

$500 toward the costs of a study of the genesis and character of the present political tensions in Europe by B. H. M. Vlekke

PHILIPPINE ISLANDS

University of the Philippines, Quezon City:

$750 to enable Meredith B. Givens to spend additional time in the Philippines strengthening the relationships of the government's Central Statistical Advisory Board to the university's research program and proposed Statistical Training Center, and to the Statistical Association

$4,500 to enable Dean José Velmonte of the School of Business Administration to visit the United States to study its educational organization, curricula, and teaching methods

SWEDEN

Professor Folke Lindberg, University of Stockholm; $650 for consultations with American experts on the methodology of urban studies, following his visiting professorship at the University of Minnesota

SWITZERLAND

Graduate Institute of International Studies, Geneva; $8,800 to permit Professor Hans Kelsen to spend a year as visiting professor at the institute

Professor René König, University of Zurich; $4,450 to visit the United States to study American empirical sociological research methods

Professor Edgar Salin, director of the Seminar of Economic History at the University of Basel; $1,000 for expenses while visiting American universies to acquaint himself with current developments in economic research

UNITED STATES

Barnard College, New York; $6,500 for Professor René Albrecht-Carrié to study, in France, the operation and collapse of the power system in Europe during the interwar period

Colgate University, Hamilton, New York; $1,300 for the completion of a short geography of Korea by Professor Shannon McCune

Columbia University, New York; $10,000 for use by the School of International Affairs toward the costs of Professor L. Gray Cowan's study of colonial administration in Central Africa

Dartmouth College, Hanover, New Hampshire; $10,000 for a study by Dean Donald H. Morrison tracing the growth of the United States Bureau of the Budget

Fordham University, New York; $6,500 to enable Professor Friedrich Baerwald to conduct studies of productivity in German heavy industries during the academic year 1953–54

Free Trade Union Committee, Labor League for Human Rights, New York; $10,000 toward the costs of bringing Indonesian trade union leaders to the United States to observe trade union practices in this country

Harvard University, Cambridge, Massachusetts; $5,500 in support of a study, under the joint supervision of Professor V. O. Key of the Department of Government and Professor Samuel A. Stouffer of the Department of Social Relations, of the sociological and sociopsychological factors related to voting in legislatures and in Congress

Institute for Advanced Study, Princeton, New Jersey:
$2,700 for expenses of a visit to the United States and Canada by Professor W. K. Hancock, director of the Institute of Commonwealth Studies, University of London

$2,600 to permit Sir Charles K. Webster, London School of Economics and Political Science, University of London, to visit the United States

Institute of Social Order, St. Louis, Missouri; $4,050 toward the expenses of a field study of State Advisory Councils in the Federal Employment Security program, by the Reverend Joseph M. Becker, S. J.

Johns Hopkins University, Baltimore, Maryland:

$2,500 to enable Merton H. Miller to spend one year as visiting lecturer at the London School of Economics and Political Science, University of London

$6,000 for use by the School for Advanced International Studies toward the costs of a one-week conference on Southeast Asia during the 1952 summer session

Library of Congress, Washington, D. C.; $10,000 toward the costs of preparing an index of Mr. Cordell Hull's private papers

Massachusetts Institute of Technology, Cambridge; $1,350 for supplementary expenses of Shinichi Ichimura in connection with his study of economic fluctuation

New School for Social Research, New York; $2,300 to enable Adolph Lowe of the Graduate Faculty of Political and Social Science to spend the spring term of 1953 as visiting professor at the Hebrew University in Jerusalem

New York University; $6,000 toward the costs of preparing an English summary on the Darmstadt Community Survey

Ohio State University, Columbus; $7,000 for completion of studies of Japanese social relations, under the direction of Professor John W. Bennett

Princeton University, New Jersey:

$8,100 toward costs of a study of population data and problems in Taiwan by G. W. Barclay

Office of Population Research of the School of Public and International Affairs; $4,600 to enable Irene B. Taeuber to spend four months in Japan completing a study of Japan's population development

Smith College, Northampton, Massachusetts; $3,250 toward the expenses of Gwendolen M. Carter's visit to South Africa and adjoining territories to study the relation of racial problems to the party system

Stanford University, California; $3,550 toward the costs of completing the analysis, under the direction of Professor Paul Wallin, of data relating to the sex adjustment of 600 married women

University of Colorado, Boulder; $785 toward the costs of Professor Henry W. Ehrmann's study, in France, of management movements since 1936

University of Denver, Colorado; $2,625 toward the costs of Professor Josef Korbel's research on the Kashmir dispute

University of Michigan, Ann Arbor; $6,000 to provide assistance to Marston Bates in exploring the possible contributions of biological knowledge and thought to a better understanding of human behavior and social problems

OTHER

Director's fund of $5,000 for travel, honoraria, books, journals, and other research and miscellaneous expenses

DIVISION OF HUMANITIES

DIVISION OF HUMANITIES

STAFF DURING 1952

Director

CHARLES B. FAHS

Associate Directors

EDWARD F. D'ARMS
JOHN MARSHALL

Assistant Director

CHADBOURNE GILPATRIC

DIVISION OF HUMANITIES

DIVISION OF HUMANITIES

TOTAL appropriations made by the Division of Humanities in 1952 were just over $1,300,000. This year, as in the past, the Foundation has attempted to aid humanistic studies which have a direct relevance to contemporary life. Seven grants were awarded to projects in the field of Intercultural Understanding, and 13 were classified under the heading of Humane Values. In addition, the division allocated some 95 grants in aid from funds set aside for this purpose in the previous year.

One of the deterrents to the development of sound relations between nations is the insularity created by ignorance of the way of life of other peoples. In light of the imperative need for closer international cooperation, the Foundation has continued its policy of aiding projects promoting greater understanding among nations. This year several grants were made in support of activities designed to interpret contemporary cultures to one another. Studies of Near Eastern culture have heretofore been relatively neglected in the Western world, particularly in the United States. A grant to Princeton University to expand its program of Near Eastern studies will contribute to remedying this situation. As the Arab world is equally desirous of information about the West, a program of translation of Western classics into Arabic has been undertaken. Similarly, a seminar

on American studies was held in Japan in the summer of 1952 to aid in interpreting our culture to the Japanese people. To promote contacts between individuals in Europe and America, an experimental program of correspondence between intellectuals on both sides of the Atlantic was established at Harvard University.

The Division of Humanities has since its inception encouraged the study of foreign languages as an aid to eliminating barriers to international cooperation. This year a grant was made to the Modern Language Association of America for an inquiry into the role which foreign languages and literatures should play in American life.

Grants aimed at making creative activity more vigorous, mature, and effective are included in the category of Humane Values. Projects in the fields of drama, literature, history, and philosophy were aided in 1952. Here the problem arises of how assistance can best be given to creative activity without restricting its freedom. The Foundation has attempted to resolve this conflict by aiding original work in three ways: direct aid to original work, development of criticism of both old and new creative work, and making humanistic work available to a wider audience. In the first category, several grants were made to stimulate original literary and historical work in the United States and abroad. Assistance was given to Princeton University for the establishment of seminars in criticism, which propose to develop critical methods for literature and other humanistic disciplines. A survey to be made of the role of historical

material in the popular media illustrates the type of activity contemplated under the third heading.

INTERCULTURAL UNDERSTANDING

HARVARD UNIVERSITY

Confluence, an International Forum

In 1951 an international seminar was held at Harvard University, Cambridge, Massachusetts, under the auspices of the Summer School of Arts, Sciences, and Education, directed by Professor William Yandell Elliott. The group of younger European and American intellectuals participating in this seminar discussed issues of interest to peoples on both sides of the Atlantic. The participants attempted either to reach basic agreement on these issues or to define and clarify the areas of genuine disagreement.

A magazine entitled *Confluence, an International Forum*, published quarterly by the Harvard Summer School, was founded to continue these discussions. The advisory board for the magazine consists of McGeorge Bundy, Huntington Cairns, Harry D. Gideonse, Harold D. Laswell, Arthur M. Schlesinger, Jr., and Arthur E. Sutherland, Jr. Each issue of *Confluence* contains articles by both Europeans and Americans on a selected subject, such as the adequacy of democracy for solving social problems, or the social role of the arts and philosophy.

The first issues of *Confluence* were distributed to carefully selected younger leaders in Europe and America. The response to this distribution was grati-

fying in that the articles were thoughtfully commented upon and discussed by the recipients. This unanticipated result suggested that a fruitful exchange of views, stimulated by the articles in *Confluence*, could be carried on through personal correspondence. Harvard University proposes to augment the editorial staff of *Confluence* by the appointment of assistants to analyze the correspondence received from abroad and refer it to the Americans most competent to reply on the issues under discussion. Particularly interesting correspondence will be mimeographed and circulated or in some cases published in the magazine. The Harvard project may eventually, if feasible, be expanded to include contributions from representatives of nations other than those in the Western world. The Rockefeller Foundation has given Harvard University a grant of $26,000 toward expenses incurred in facilitating correspondence between younger European and American intellectuals, and toward some of the editorial costs of *Confluence*. The grant is available until the end of 1953.

AUSTRIAN COLLEGE SOCIETY

Institute for Current European Cultural Research

The sum of $40,000 has been made available to the Austrian College Society, Vienna, to be used over a three-year period for the research program of its Institute for Current European Cultural Research. The society was founded in 1945 by a group of young Austrians to foster discussion of contemporary topics among intellectuals from Austria and other European

countries. The Alpbach Forum, established by the Austrian College Society, has brought together for approximately one month each year prominent European scientists, scholars, and men of affairs to consider subjects of intellectual importance. In 1949 the society realized that the success of its work required a continuing program of organized research and educational activity. The Institute for Current European Cultural Research was set up the next year to plan and carry out this program.

The institute is attempting the task of analyzing current cultural trends in the political, economic, literary, and intellectual life of various European countries. Through this analysis, the institute hopes to develop efficient methods for the study of contemporary history and to define and characterize more clearly the substance of contemporary thought. In the past, the lack of adequate information on cultural trends has discouraged many historians from concentrating on contemporary history and has greatly hampered those who chose to do so.

A considerable amount of information has already been collected and evaluated by members of the Institute for Current European Cultural Research. Relations have been established with important centers of cultural movements throughout Europe. The seminars sponsored by the institute enable its members to obtain suggestions and advice from leading Austrian and European thinkers. Results of the work accomplished at the institute are to be published in the form of yearbooks, monographs, and articles, beginning early in 1953. The Rockefeller

Foundation grant will contribute to the current expenses of the institute and to the salaries of staff members, seminar leaders, and lecturers connected with the institute's work.

MODERN LANGUAGE ASSOCIATION OF AMERICA

Foreign Language Education in the United States

The Modern Language Association of America, New York, has received a three-year grant of $120,000 from The Rockefeller Foundation for an inquiry into the role that foreign languages and literatures should play in American life. The active part that the United States is now taking in world affairs makes it desirable that a greater number of Americans than ever before have a knowledge of foreign languages and cultures. The Modern Language Association proposes to survey the foreign language situation in the United States and to see what can be done to improve it. The Rockefeller Foundation grant will permit Mr. William R. Parker, the association's executive secretary, to devote his time to directing the new project. It will also provide him with the necessary clerical help and finance various conferences planned in connection with the program.

In the first phase of the study, the association will investigate the current status of foreign language education in the colleges and secondary schools of the United States. It will attempt to ascertain America's present and future needs for foreign languages and to determine how a knowledge of foreign languages and literatures can contribute to a deeper understanding of other cultures on the part of Americans in all spheres of contemporary life.

As the second phase of its program, the Modern Language Association plans to take all possible steps to improve the existing foreign language situation, both quantitatively and qualitatively. Three committees will be created, one dealing with foreign languages and literatures in colleges of this country, a second relating to the precollege situation, and one concerned with the nonacademic use and appreciation of foreign languages and literatures. Work in the academic field will be facilitated by the close acquaintance of members of the association with this field. Particular efforts will be made, through conferences with key representatives of the nonacademic world, including business, government, and arts and letters, to deal effectively with the nonacademic situation.

UNIVERSITY OF ILLINOIS, KYOTO UNIVERSITY, AND DOSHISHA UNIVERSITY

Seminar in American Studies

The Rockefeller Foundation appropriated $22,500, on the joint recommendation of the Division of Humanities and the Division of Social Sciences, for a seminar on American studies held in Kyoto, Japan. The seminar took place in the summer of 1952, under the auspices of the University of Illinois, Kyoto University, and Doshisha University.

Since 1950 the Foundation has been supporting a similar series of seminars in Tokyo, under the joint sponsorship of Stanford University and Tokyo University. Following the session held in Tokyo in 1951, the American staff journeyed to Kyoto to present an intensive one-week survey of the work covered at

Tokyo. As a result of the interest aroused in Kyoto, it was decided to organize a full four-week American studies seminar there in 1952.

Preparations for the new Kyoto conference were made by Professor Royden J. Dangerfield, director of the Institute of Government and Public Affairs of the University of Illinois. Professor Dangerfield had been a member of the Tokyo seminar staff in 1951 and had participated in the Kyoto survey session. Professors in the fields of literature, education, economics, political science, and psychology were invited to give lectures and lead discussions on various aspects of American thought and life. In addition to the work offered at Kyoto, the staff held a brief session at another provincial center in Japan.

PRINCETON UNIVERSITY

Near Eastern Studies

Princeton University is one of the few American universities which has concentrated on the modern phases of Islamic civilization. It is now a principal source for the trained personnel urgently needed for American work abroad and for the development of contemporary Near Eastern studies at other American colleges and universities.

The Near Eastern studies program at Princeton, which was begun in 1947, is organized on an interdepartmental basis. It is administered by a committee under Mr. Philip K. Hitti, professor of Semitic literature, consisting of representatives from the fields of politics, economics, history, and languages. More

specialized work in Islamic studies centers in the Department of Oriental Languages and Literatures. This program, which has received support from The Rockefeller Foundation since its inception, is carried on at both the graduate and undergraduate levels. Undergraduates from other departments of the university may elect individual courses offered under the Near Eastern studies program. For example, a number of undergraduates attended a noncredit seminar on contemporary Islam given by Professor Bayard Dodge, president emeritus of the American University of Beirut.

Princeton University now offers a well-rounded program in the languages, literatures, and history of the Near East. The university's next objective is to expand its coverage of the political, economic, and social aspects of the Muslem world. The proposed expansion requires the development of new personnel. It is planned to select two young men, one from the Department of Politics and one from the Department of Economics and Social Institutions to receive special training on the Near East. Those chosen will spend one year working at Princeton, one year in the Near East, and the next year will begin teaching in their respective departments. The Rockefeller Foundation has given Princeton University a five-year grant of $100,000, sponsored jointly by the Division of Social Sciences and the Division of Humanities, toward the work of these students and other expenses incurred in the further development of its Near Eastern studies program.

AMERICAN COUNCIL OF LEARNED SOCIETIES

Encyclopedia of Islam

The Rockefeller Foundation in 1952 gave the American Council of Learned Societies, Washington, D. C., a grant of $15,000 to be used over a five-year period as the council's contribution toward the revision of the *Encyclopedia of Islam*. This encyclopedia is the principal source of information on the Muslem world for Western scholars. The present edition, published in English, French, and German, was compiled by Western Islamicists between 1907 and 1938. The interest of the Western world in Islam has grown greatly in the past 15 years, and additional information is now available on all aspects of the Muslem world. The Royal Netherlands Academy of Sciences, which has assumed chief responsibility for revising and completing the *Encyclopedia of Islam*, will be assisted in this task by the principal academies of the Western nations. The American Council of Learned Societies represents the United States in the revision project.

Preparations for the new edition of the *Encyclopedia of Islam* are already under way. International committees on various aspects of the project have met, and Professors H. A. R. Gibb of Oxford and E. Lévi-Provençal of Paris have been placed in charge of the editorial work. Articles will be assigned to the Western scholars best qualified to interpret each particular subject. Leading Muslem scholars will also participate in the project. It is estimated that

preparation of the new encyclopedia, which is to appear in French and English editions, will take approximately 20 years.

AMERICAN UNIVERSITY OF BEIRUT

Translation of Western Classics

The interest of the Arab countries in information about the Western world has also significantly increased in the postwar years. One of the best ways of acquainting the Muslem peoples with Western thought and tradition is to make Western literature available to them in their own language. The number of such works now in print is clearly insufficient. For this reason, the American University of Beirut, Lebanon, is assuming responsibility for the translation into Arabic of selected Western writings. The Rockefeller Foundation is supporting this project with a two-year grant of $13,000.

A committee of leading scholars from Iraq, Syria, Lebanon, Jordan, and Egypt has been appointed to select the works to be translated. Professor Nabih A. Faris, head of the Department of Arabic Studies at the American University, will serve as coordinator for the project. Certain criteria for choosing the books to be translated have been established. Both the intrinsic value of the work and the need of the Arab world for a work of this type will be taken into account. Those selecting the translations will keep in mind the interests and needs of the Arab reader with a secondary school education. The selections will be limited to books in the field of the humanities.

HUMANE VALUES

PRINCETON UNIVERSITY

Seminars in Criticism

Princeton University is moving toward a comprehensive new program in the humanities, comparable to the programs offered in the natural sciences at the Forrestal Research Center and in the social sciences at the Woodrow Wilson School of Public and International Affairs. The new humanities program is to have as one of its principal components the seminars in criticism established in memory of Professor Christian Gauss. These seminars are designed primarily for the benefit of younger faculty members and graduate students, while other parts of the program will be aimed at improving the instruction of undergraduate students and at stimulating creative activity. The Rockefeller Foundation is supporting the Christian Gauss Seminars in Criticism with a five-year grant of $100,000.

The new seminars are an outgrowth of a series of experimental seminars in literary criticism established at Princeton with the aid of a Foundation grant in 1949. During the past three years distinguished critics from the United States and abroad have presented their ideas on literature and related subjects at these conferences. Faculty members and advanced graduate students participating have found that their thinking and ultimately their teaching and writing have been greatly stimulated by these lectures and discussions. The seminars have served as a focus of

intellectual interest for the whole Princeton community. Visitors from abroad have found them of help in acquiring an understanding of current trends in critical thinking.

In line with its humanities development program, Princeton University now plans to expand these seminars in literary criticism to include work in fields other than literature. There is confidence that new perspectives may also be developed in fields such as philosophy and the fine arts. The purpose of the seminars in criticism is to define more clearly the values and principles underlying the humanities and to apply them to the complex problems presented by the world today.

KENYON COLLEGE

Fellowships in Creative Writing

The Kenyon Review is an American literary magazine which makes a direct and significant contribution to the progress of literature in this country. It was established by Kenyon College, Gambier, Ohio, in 1939, under the editorship of John Crowe Ransom, with another member of the faculty, Philip Blair Rice, as associate editor. At present, Eric Bentley, Cleanth Brooks, Lionel Trilling, and Robert Penn Warren are serving as advisory editors. The *Review* contains fiction, poetry, critical articles, book reviews, and occasional accounts of recent developments in the humanities. Frequently it publishes for the first time the work of promising writers who later achieve wider recognition.

Over the last five years The Rockefeller Foundation has been aiding *The Kenyon Review* to maintain

its payments to contributors. While this support has now been discontinued, a three-year grant of $41,400 made this year will provide for three fellowships annually to be awarded by the editors of the *Review*, one each in the fields of fiction, poetry, and criticism. Although fellows will not be required to reside at Kenyon College, the editors will maintain close contact with them and furnish them all desirable guidance and advice. In view of these services to the fellowship program, the grant includes a modest contribution toward the editorial costs of *The Kenyon Review*.

DALLAS CIVIC THEATRE

New Playwriting

The Dallas Civic Theatre, Texas, received a grant of $2,000 from The Rockefeller Foundation for aid in the stimulation, criticism, and production of new play scripts. Since its establishment in 1946, the Dallas theatre has become one of the leading regional drama centers in the United States. Eight plays were produced during the 1951–52 season, which culminated in a two-week repertory festival. Under the leadership of Miss Margo Jones, the theatre's founder and director, new plays by talented young playwrights have been featured. During the past year, Miss Jones and her staff received and read approximately 1,200 scripts from playwrights all over the world. Six of these were produced by the Dallas Civic Theatre itself, and over 200 outstanding works were referred to other theatrical producers for their con-

sideration. Miss Jones also attempts, through criticism and advice, to aid authors of promising scripts to improve their work.

The particular merit of the Dallas Civic Theatre is that it serves a region far from the established centers of dramatic activity. Although other organizations are also actively encouraging the writing and production of new plays, the South and Middle West have hitherto been relatively neglected. The Foundation grant, which is available until the end of 1953, is intended to aid Miss Jones and the Dallas theatre to stimulate new playwriting and production in these areas.

MEXICAN-AMERICAN CULTURAL INSTITUTE

Creative Writing

In 1951 The Rockefeller Foundation gave a grant in aid of $9,650 to Mexico City College for a program of fellowships for Mexican writers, under the direction of Miss Margaret Shedd. This writing project, now sponsored by the Mexican-American Cultural Institute, under Miss Shedd's direction, has received further Foundation support with a grant of $22,750, available until August 1953.

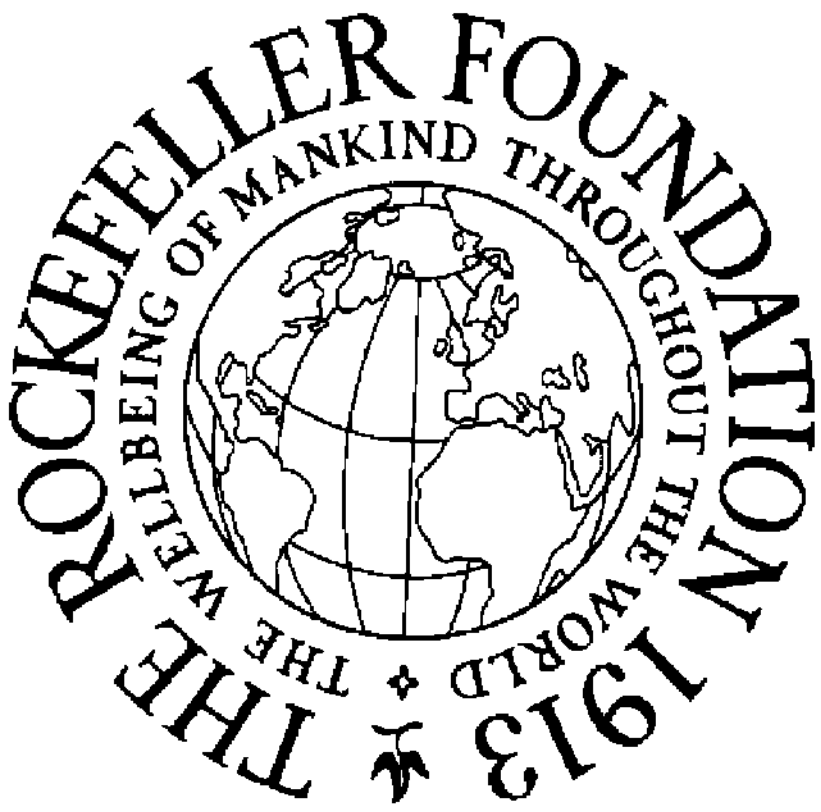
Under the new grant, four fellowships in creative writing are offered to young Mexican authors. In addition, three inquiries into the role of literature in Mexico and its relationship to Mexican life are to be undertaken. One American and one Mexican writer will receive fellowships to work together on each of these surveys. Topics under consideration for

the surveys include: an analysis of the Mexican reading public and the United States reading public for Mexican publications; the theatre and poetry in Mexico in terms of mass communication; Mexican literary styles and editorial methods; and symbols in Mexican literature and life. The whole project, both the independent writing and the cooperative studies, is under the supervision of an honorary committee composed of leading Mexican educators and writers, responsible for the selection of fellows. Direct supervision is supplied by an active committee which meets with the fellows periodically throughout the year for discussion of literary problems and criticism and evaluation of the work under way.

UNIVERSITY OF DELAWARE

American Studies

The University of Delaware, Newark, has received a three-year grant of $75,000 from The Rockefeller Foundation for its program of American studies. Under the leadership of its new president, Mr. John A. Perkins, the university plans to set up distinctive programs of study in the humanities and the social sciences. It intends to develop a new approach to American studies by integrating the study of American arts and crafts with that of American history, thought, and life. The university is fortunate in having access to the facilities of the nearby Winterthur Museum in Wilmington. This museum, which was founded by Henry Francis du Pont, has a unique collection of American interior architecture, furniture,



Photograph Excised Here

Celebration of the first anniversary of the Japan Library School, Keio University

Photograph Excised Here

National Museum at Seoul, Korea. *Above:* main gallery. *Below:* Karyo pagoda in the museum garden

Photograph Excised Here

silver, fabrics, china, and household decorations dating from the colonial period and the early years of the republic. The Winterthur Museum has established a training program for museum assistants in collaboration with the new American studies program at the University of Delaware. Thus students at the museum study at the university, and university students in American studies have available the resources of the museum. The Rockefeller Foundation grant is intended to give members of the university staff more time to devote to this program, to bring in scholars from outside the university, and to provide the needed library materials.

KEIO UNIVERSITY

Japan Library School

In July 1950 a new library law was enacted in Japan to encourage the growth and diffusion of modern concepts and techniques of library science. The law calls for the establishment of training courses in librarianship, for librarians already holding positions as well as for those preparing to enter the field. To help fill the need for instructors for the proposed courses and to aid in other aspects of the new program, the United States Army in Japan, in cooperation with the American Library Association, founded the Japan Library School in March 1951 at Keio University in Tokyo. Preliminary arrangements for the school were made by Professor Robert B. Downs, director of the Library School of the University of Illinois. The library school is directed by Professor

Robert L. Gitler, former head of the Library Science Department of the University of Washington, and is partially staffed by American library science experts.

Following the conclusion of the Japanese peace treaty, United States governmental support for the library school came to an end. Although substantial progress had been made in training Japanese personnel, it was felt that the immediate withdrawal of all American personnel would seriously jeopardize the progress already made and the future of the whole program. The Japan Library School plans, by employing a decreasing number of American staff members each year, to make a gradual transition to Japanese leadership within the next few years. In support of this program, The Rockefeller Foundation has given Keio University a four-year grant of $142,800 for the Japan Library School.

NATIONAL DIET LIBRARY, JAPAN

Microfilm Laboratory

The National Diet Library, Tokyo, has received a three-year grant of $41,000 toward the establishment of a microfilm laboratory. The library, modeled organizationally on the Library of Congress, was set up by the Japanese legislature in 1948. Mr. Verner Clapp, chief assistant librarian of the Library of Congress, and Mr. Charles Brown of the American Library Association aided in the drafting of its statute. It is the national library of deposit for Japan and an important research and reference center. The proposed microfilm laboratory will permit newspapers and periodicals to be stored more economically and afford additional protection for rare materials. For-

eign scientific materials, which are now in short supply in Japan, will be more readily available to scholars and scientists throughout the country. By making possible the copying of Japanese writings, the new laboratory will also facilitate the work of scholars abroad. The Library of Congress, which assisted the Diet Library in drawing up the plans for its microfilm laboratory, will also undertake the training of a Japanese technician.

HARVARD UNIVERSITY GRADUATE SCHOOL OF EDUCATION

History and Philosophy of Education

The Foundation has made a three-year grant of $40,500 to the Graduate School of Education of Harvard University, Cambridge, Massachusetts, in support of work in history and philosophy.

The Harvard Graduate School of Education, under the leadership of Dean Francis Keppel, plans to strengthen the historical and philosophical aspects of its approach to educational problems. As a part of the research program it is felt that the process of education should be examined afresh in its proper historical perspective. Hence, the Harvard Graduate School of Education proposes to review the relationship of education in the United States to the historical development of American society. The historical assumptions underlying education will be reconsidered and an attempt made to clarify the aims of education in America. These aims in turn will be scrutinized in the light of philosophical thinking and with particular reference to the importance of values in education. The Rockefeller Foundation grant to Harvard University will contribute to the salaries of

a philosopher, an historian, and two research assistants who will be added to the staff to work on this project.

ITALIAN INSTITUTE OF HISTORICAL STUDIES

Library Materials and Fellowships

On November 20, 1952, Benedetto Croce, one of the leading philosophers and historians of the twentieth century, died at the age of 86. In 1946 Mr. Croce had founded the Italian Institute of Historical Studies in Naples to promote historical research and studies in Italy and abroad. The establishment of the institute enabled Mr. Croce to fulfill a long-cherished desire to spend his final years as a teacher of the younger generation. In the six years of its existence the institute has won international recognition for its work in stimulating original historical thinking. A *History of Italian Foreign Policy from 1870 to 1896* by Professor Federico Chabod, director of the Italian Institute of Historical Studies, has recently appeared, and other studies are in progress. The Rockefeller Foundation has contributed to the support of the institute since 1949. In 1952 a new appropriation of $10,500 was made to the Italian Institute of Historical Studies to be used over a three-year period for the purchase of library materials and for fellowships.

SOCIETY OF AMERICAN HISTORIANS, INC.

Historical Material in the Popular Media

The Society of American Historians, Inc., New York, was formed in 1939 for the purposes of promoting historical studies and interests in the United

States, collecting and preserving historical material, encouraging sound historical writing, and diffusing the fruits of this writing. The society, under the leadership of Professor Allan Nevins, aims to make history more easily available and more interesting to the general public. It is felt that a knowledge of history is essential for an understanding of the present as well as of the past. As a basis for work along these lines, the society has undertaken a survey of the role of historical material in the popular media, such as nonacademic publications, films, radio, and television. This project, which was first supported by a Rockefeller Foundation grant in aid, has gathered some valuable data. The Foundation continued its aid with a grant of $5,210 to the Society of American Historians, Inc., toward completion of the collection of information and to permit the formulation of recommendations for improving the use of history in the popular media.

LEHIGH UNIVERSITY

History of the British Empire

The Rockefeller Foundation gave Lehigh University, Bethlehem, Pennsylvania, a three-year grant of $21,000 in support of Professor Lawrence H. Gipson's research on the British Empire from 1748 to 1775. Professor Gipson has been engaged for many years in writing the history of the British Empire before the American Revolution. Seven volumes of his proposed 12-volume work have been completed. Volume 6 of the series was awarded the Loubat Prize, given once every five years for the best work

published in English on the history, archeology, ethnology, philosophy, or numismatics of North America; and Volume 7 received the Bancroft Prize for distinguished writing in American history. Professor Gipson, who is now professor emeritus at Lehigh University, is working on Volume 8 and proposes to complete the remaining four volumes of his work within the next eight years. The Rockefeller Foundation grant will supplement Professor Gipson's retirement allowance and provide him with the editorial and secretarial assistance and materials needed for his research.

YALE UNIVERSITY

Contemporary History

In 1948 The Rockefeller Foundation gave Yale University, New Haven, Connecticut, a grant to aid Professor Ralph E. Turner in the preparation of a study of *The Meaning of the Twentieth Century*. In further support of this project in contemporary world history under Professor Turner's direction, the Foundation has given Yale University a new grant of $10,000.

NATIONAL INSTITUTE OF ANTHROPOLOGY AND HISTORY, MEXICO

South American Fellowships

The National Institute of Anthropology and History, Mexico, D. F., received a grant of $3,415 from The Rockefeller Foundation in 1952 to continue the fellowships of two South American students for an 18-month period. The extension of these fellowships, which were made possible by a previous

Foundation grant, will permit these students to complete their courses of study in anthropology and archeology at the institute.

GRANTS IN AID

In the Division of Humanities some 95 grants in aid, amounting to $289,118, were awarded during the year. These grants, which varied in size from $250 to $10,000, were distributed among projects in 18 different countries.

The largest single group of grants was made for projects in literature, drama, and creative writing, and for exploratory work in music and art. The 25 grants awarded under this heading were for original work, travel, conferences, seminars, and surveys. This marks a substantial increase in the number of grants in aid made in these areas; 15 projects were aided in the previous year.

The remaining 70 grants were allotted to projects in the fields of intercultural understanding, 17; history, 16; language and linguistics, 13; philosophy, 11; and miscellaneous, 13.

Language and Linguistics

INDIA

G. R. Venkataraman; $350 to develop plans for a survey of the trends in the use of English in India, particularly in Indian education, journalism, literature, and official work

NORWAY

Professor Alf Sommerfelt, University of Oslo, and president of the International Permanent Committee of Linguists; $1,800 to visit centers of linguistic study in the United States

after attending the conference of linguists and anthropologists at Indiana University

UNITED STATES

Alliance College, Cambridge Springs, Pennsylvania; $1,000 to explore the possibility of securing publication of the Ukrainian-English dictionary prepared by Professor Constantine Andrusyshen

City College, New York; $2,820 for Ross Scanlan, professor of speech, to continue his study of the Nazi Party Speaker System as an important example in recent history of the influence of the spoken word

Clark University, Worcester, Massachusetts; $6,700 for experimental studies in the expressive aspects of language

Cornell University, Ithaca, New York; $2,000 for Professor Charles F. Hockett for research and writing in linguistics during the spring term of 1953

Harvard-Yenching Institute, Cambridge, Massachusetts; $4,000 for two fellowships for students of the Korean language

Indiana University, Bloomington; $1,000 to supplement available funds for special lectureships in the Linguistic Institute during the summer of 1952

Modern Language Association of America, New York; $2,000 to provide funds for a special meeting of the Executive Council of the association to clarify the proposed study of foreign languages and literature in America today

Colonel Adolph Myers, a British expert in language-teaching methds; $600 to visit centers of study of methods of language teaching in the United States

Summer Institute of Linguistics, Inc., affiliated with the University of Oklahoma, Norman; $8,400 to enable K. L. Pike to prepare a book on the structure of language and behavior

University of Chicago, Illinois; $2,500 for study of the applications of descriptive linguistics for literary criticism

Yale University, New Haven, Connecticut; $3,000 to enable Floyd Lounsbury, assistant professor of anthropology, to study relationships among language, logic, and culture

Intercultural Understanding

FRANCE

André Fraigneau, French writer, and James Lord, American writer; $5,000 travel and living expenses for their joint observation of American cultural life, as a basis of comparison with that of France

Professor J. G. Loiseau, University of Bordeaux; $550 to observe American studies programs in American universities

University of Bordeaux; $6,000 for the development of North American studies in the Faculty of Letters

GREAT BRITAIN

Professor H. A. R. Gibb, professor of Arabic, St. John's College, University of Oxford, England, and Mrs. Gibb; $2,500 to revisit Islam, to gain at first hand an acquaintance with current thought and movements in Lebanon, Syria, Iraq, Turkey, and probably Egypt

Dr. J. Schacht, reader in Islamic studies, University of Oxford, England; $3,000 to visit Egypt, Syria, Lebanon, Iraq, and Turkey, to gain a direct acquaintance with contemporary Muslem thought and movements

INDIA

Deccan College, Poona; $2,400 for Irawati Karve to consult with American students of Indian culture en route from London to Deccan College, where she is a reader in sociology

JAPAN

Aichi University, Toyohashi:

$4,200 to enable Professor Jun Koiwai to spend six months in the United States becoming acquainted with the work of centers of Chinese studies

$1,000 for the purchase of Western publications on China, additions to the development of a program of international studies at this private university

LEBANON

American University of Beirut; $6,000 for Habib Kurani, chairman of the Department of Education, to visit the United States for studies concerned with the understanding and interpretation of Arab culture, during the academic year 1952–53

A conference to be held in the Near East (Lebanon) as a preliminary to a proposed conference on the interpretation of Arab tradition, thought, and outlook; $2,500

UNITED STATES

American Council of Learned Societies, Washington, D. C.; $8,700 to enable Frederick G. Friedmann of the University of Arkansas to continue his studies of intercultural understanding in Mexico and in the United States

Columbia University, New York:

$3,220 for travel and living expenses of J. Montgomery Curtis of the American Press Institute while visiting Southeast Asia

$600 for Professor Karl H. Menges to make a survey of the present status of Slavic and Oriental studies in the universities of Western Germany

Library of Congress, Washington, D. C.:

$2,500 for expenses connected with a conference of the American Studies Association, primarily on the work being done on American studies abroad

$3,000 for the publication of the *Southern Asia Quarterly Accessions List* for 1953

University of Washington, Seattle:

$490 for the expenses of Neal O. Hines in connection with

a study of publication problems related to the Far Eastern and Russian Institute

$400 for expenses of an examination of the need for further press translations relative to Soviet foreign policy in the Far East

LITERATURE AND THE ARTS

JAPAN

Nagoya University; $1,930 for purchase of books and for salaries of visiting scholars contributing to the development of a program in comparative literature

Waseda University, Tokyo; 240,000 yen (approximately $700 for a program of lecture seminars in the field of drama

PHILIPPINE ISLANDS

Mr. and Mrs. N. V. M. González, Philippine writers; $2,800 to hold meetings with other writers in Hongkong, Siam, India, Ceylon, Singapore, and Indonesia

Severino Montano; $3,500 to visit centers of drama in Europe and Asia, en route back to the Philippine Islands after being a staff member of the American University in Washington, D. C.

TURKEY

Professor Irfan Sahinbas, professor of English at the University of Ankara; $7,100 to spend 12 months in the United States gathering material for a history of American drama written in the Turkish language

UNITED STATES

Columbia University, New York:

$4,000 to enable Marius Bewley to complete a study of the American novel

$2,225 for transatlantic travel from Munich, Germany, and for living expenses of Professor Wolfgang Clemen to visit

centers of English and comparative literature studies in the United States

$2,000 assistance to Professor Paul H. Lang while collecting materials in Europe, preparatory to writing a book on the social history of music

Conference on the problems of giving assistance to playwriting in the United States; $1,700 for the expenses of participants in a conference to be held in Chicago on the value of the Foundation's aid given to young playwrights and drama groups over the past two years

Honolulu Academy of Arts, Hawaii; $4,500 to enable Mr. and Mrs. Gustav Ecke to visit important collections of Chinese art in the United States and Canada for a study of the psychology of wen-jen painting

Dorothy B. Jones; $250 to complete her critical study of classic American films

Karamu House, Cleveland, Ohio; $5,000 for Junius Eddy to spend a second year there as playwright-in-residence

Stella Kramrisch, University of Pennsylvania, Philadelphia; $500 to report on leading artists and cultural leaders in India

Museum of Modern Art, New York:

$3,500 for Bernard Karpel, librarian at the museum, to prepare a bibliography on the arts, including painting, sculpture, architecture, photography, film, graphic arts, industrial design, and the dance, for the period 1900–1950

$850 for a two-day conference in April in preparation for a public symposium on "The Film Approach to Art"

New School for Social Research, New York; $5,600 for further support of Hellmut Lehmann-Haupt's work on the relationship of art and society

Ohio State University, Columbus; $6,100 for expenses related to the interdisciplinary work conference on research into

creative experience in the arts, plans for which have been drawn up by Manuel Barkan, associate professor of art education

Princeton University, New Jersey; $6,100 for Professor Richard P. Blackmur to contact writers and scholars in contemporary literature in Europe and the Near East while spending the academic year 1952–53 abroad

Fred Smith, College of Music of Cincinnati, Ohio; $450 to make a survey of the opportunities available to American composers today

University of Chicago, Illinois:

$2,225 to enable Joseph Frank to study the philosophical foundations of modern criticism while at Chicago working with the Committee on Social Thought

$6,500 to enable Simon O. Lesser to complete his study of response to narrative art

University of Wisconsin, Madison; $10,000 to assist in a preliminary survey of the effects of the university's program in community arts on individuals and on communities

Washington and Lee University, Lexington, Virginia; $800 for Professor Marion Junkin of the Department of Fine Arts to complete his book on the relation between religion and art

Yale University, New Haven, Connecticut; $8,000 for a critical survey of modern Chinese literature by Chih-tsing Hsia, for two years

YUGOSLAVIA

University of Zagreb; $2,500 for the acquisition of books in American literature for the Seminar on Anglistics, under the direction of Professor Josip Torbarina

History

FRANCE

Professor Léon Bourdon, University of Toulouse; $1,000

to visit university and research centers in Latin America to obtain research materials for his continued study of Latin American history

GERMANY

Professor Helmut Papajewski, University of Cologne; $2,500 to continue his research in the United States on the influence of German universities on American intellectual life in the nineteenth century

GREAT BRITAIN

University College of North Staffordshire, Stoke-on-Trent, England; $1,500 for the purchase of books in philosophy and history, chiefly American history, published for the most part in the United States; the sum is available through March 31, 1954

INDIA

Patna University; 5,000 rupees (approximately $1,100) to enable Professor K. K. Datta to survey current Indian research on recent Indian history

IRAQ

Higher Teachers College, Baghdad; $2,500 for Zaki Saleh, professor of history, to complete the introduction to the study of contemporary Iraq

ISRAEL

Hebrew University, Jerusalem; £700 (approximately $2,100) to enable Richard Koebner to continue his research in England on *Studies in the History of Political and Historical Concepts; Their Rise and Influence in Public Life*

MEXICO

Commission on History of the Pan American Institute of Geography and History, Mexico, D. F.:

$3,100 to enable Javier Malagón Barceló to spend six months in the United States to become acquainted with the

field of Latin American history in the United States and with the work of the Pan American Union and other international organizations in this country

$3,840 support for the work on Peruvian history by Jorge Basadre

UNITED STATES

Catholic University of America, Washington, D. C.; $1,000 to assist Professor Engel-Janosi in his historical research in the archives of Austria

John W. Caughey, managing editor of the *Pacific Historical Review;* $8,000 to continue a study of the role of criticism in the writing and study of history

New School for Social Research, New York; $900 for Paul Grabbe to prepare for publication his report on *Foreign-born Americans' Concept of the United States*

Society of American Historians, Inc., New York; $10,000 for a six-month survey of the extent to which historical material is used in popular media such as radio, television, films, and newspapers

State University of Iowa, Iowa City; $4,000 for Professor William O. Aydelotte, chairman of the Department of History, to continue his research on the British House of Commons for the period 1841 to 1847

University of Chicago, Illinois; $8,000 to provide research assistance for two years for Professor Louis Gottschalk while he continues his studies of the Marquis de Lafayette and the French Revolution

University of Notre Dame, Indiana; $4,500 to enable A. Robert Caponigri to prepare a book for an English-speaking public on Benedetto Croce's historical writing

Washington and Lee University, Lexington, Virginia; $750 for Marshall W. Fishwick to complete his study of American culture heroes, during the summer of 1952

Philosophy

GREAT BRITAIN

Somerville College, University of Oxford, England; £700 (approximately $2,100) for expenses connected with the preservation and editing of manuscripts of the late Ludwig Wittgenstein, for a three-year period

MEXICO

Jorge Portilla, Mexican philosopher; $1,125 to visit Americans working in the fields of philosophy, social philosophy, and community organizations

SWITZERLAND

Federal Technical Institute, Zurich; $9,875 for the research of Siegfried Giedion on his third volume of the continuity of human experience, using as his criterion man's attention to art

UNITED STATES

American Philosophical Association; $2,500 for the use of the Eastern Division in the advance preparation and circulation of conference materials to the 800 members

City College, New York; $4,800 for Professor Abraham Edel while he is working on a book on ethical theory

Columbia University, New York; $500 to enable Daisetz T. Suzuki, Japanese philosopher, to complete the preparation of his introduction to Kegon philosophy

Fordham University, New York; $2,600 to enable Professor Dietrich von Hildebrand to complete his two-volume analytical study of Christian ethics

Harvard University, Cambridge, Massachusetts; $250 for an evaluation of the unpublished manuscripts of C. S. Peirce

New School for Social Research, New York; $1,075 for a field investigation in Iceland by Laura Thompson as she continues

her research into the systems of value judgments around which societies are organized

Stanford University, California:

$8,500 to make possible the appointment of Hideo Kishimoto as visiting professor of philosophy for the academic year 1953–54

$2,500 for preparation for publication of an English version of the section on Japanese thought in a two-volume work by Hajime Nakamura

Miscellaneous

AUSTRALIA

Richard H. Samuel, professor of Germanic languages at the University of Melbourne; $2,100 to observe and study recent educational developments in Germany

University of Tasmania, Hobart; $8,150 to enable Sir John Morris, chancellor of the university, and Lady Morris to visit Great Britain, Europe, and the United States in connection with the Conference of Vice-Chancellors of the Universities of the Commonwealth to be held in England in 1953

CANADA

Humanities Research Council of Canada, Ottawa; $2,000 toward travel expenses of those taking part in a three-day National Conference of University Teachers of English in Canada

GERMANY

Institute for International Schoolbook Improvement, Brunswick; $2,000 toward the work of the institute in improving textbooks used in the German educational system

GREAT BRITAIN

Delegates of the Press, University of Oxford, England; 1,940 Egyptian pounds (approximately $5,820) to assist

Professor K. A. C. Creswell in preparing his fourth volume on Muslem architecture

Bertrand L. Hallward, vice-chancellor of the University of Nottingham, England; $300 to visit Canada, after his stay in the United States, to study campus planning and problems of general education

Arthur Paul Stirling, lecturer in anthropology at the London School of Economics and Political Science, University of London, England; $660 to visit Turkey during the summer of 1952 to continue his study of the social structure of Turkish peasant communities

INDIA

Patna University; $500 for Professor H. P. Maiti, director of the Institute of Psychological Research and Service, to visit other Indian centers where related psychological work is being done

JAPAN

Keio University, Tokyo; $500 for temporary support and travel of the director and one other American faculty member at the Japan Library School

KOREA

National Museums of Korea; $2,400 for the work of Kim Chewon, director general of the National Museums of Korea

UNITED STATES

American Library Association, Chicago, Illinois; $2,500 for Robert B. Downs, librarian and director of the Library School at the University of Illinois, to visit Mexico in the summer of 1952

Library of Congress, Washington, D. C.; $10,000 to select, purchase, and ship balanced, scholarly collections of books and periodicals on the Soviet Union to two libraries in Japan:

the National Diet Library in Tokyo and the library at Hokkaido University

OTHER

For small grants for travel, equipment, materials, consumable supplies, and for research and miscellaneous expenses; $2,000 for allocation by the Director of the Division

OTHER APPROPRIATIONS

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DURING the year certain grants are made that do not fit easily into the regular divisional programs. These grants are taken from general funds. Appropriations relating to more than one aspect of the Foundation's work also fall into this category. In 1952 some eight grants and eleven grants in aid of this type, totaling $1,103,453, were made.

THE INTERNATIONAL HOUSE OF JAPAN, INC.

With the conclusion of the peace treaty in the spring of 1952, Japan began to re-establish normal relations with the rest of the world. In the months following ratification of the treaty, diplomatic representatives were exchanged and commercial contracts signed. It was recognized that cultural relations were also of importance in Japan's resumption of her proper place in the community of nations, but that both physical and organizational facilities in Tokyo were inadequate for the encouragement and maintenance of such cultural relations on the desired intellectual and nonofficial basis.

To find means of meeting this need 27 Japanese and eight Americans organized a Cultural Center Preparatory Committee, which took steps for the legal establishment of the International House of Japan,

Inc. This new organization plans to encourage through all suitable means cultural and intellectual contact between Japan and other countries. To facilitate such activities the construction of a cultural center in Tokyo is contemplated, with facilities for residence for a small number of Japanese and foreign scholars as well as a small library, meeting rooms, and offices.

Towards the building program and support of the activities of the International House of Japan, Inc., over a five-year period, The Rockefeller Foundation has made available 243,403,580 yen (approximately $676,120), contingent on the ability of this new Japanese organization to raise from other sources the balance of the funds necessary to carry forward its plans.

PACIFIC SCIENCE ASSOCIATION

Permanent Secretariat

The Pacific Science Association in Washington, D.C., is an international organization founded in 1920 to promote scientific work on problems of common interest arising in the Pacific area. The association's principal activity has been to hold scientific congresses at three-year intervals. In 1949 it was decided to establish a permanent secretariat to serve as a central office between meetings. The Rockefeller Foundation in that year gave the Pacific Science Association a grant of $12,000 to aid in the establishment and maintenance of this permanent office.

In the past two years the secretariat has made a good start toward fulfilling the functions for which it was set up. The future of the secretariat and its

financial support were to be decided by the Eighth Pacific Science Congress, scheduled to meet in the Philippine Islands early in 1952. This congress has been postponed until the fall of 1953. To enable the secretariat to continue in operation until that time, the Foundation has renewed its support with a two-year grant of $23,600.

SOCIAL SCIENCE RESEARCH COUNCIL

Committee on Cross-Cultural Education

Approximately 30,000 foreign students are at present studying in the United States. The total number of foreign visitors coming to the United States in any one year for some type of training or experience is estimated at nearly twice that number. Various groups connected with international exchange projects are anxious for objective data to enable them to evaluate these programs. Administrators are interested in knowing whether or not their methods of selection and orientation are effective. Social scientists are concerned with the experiences of visiting students in the United States and their adjustment to these experiences. Other groups are interested in the attitudes developed by foreign students toward the United States. To supply basic information needed to answer such questions, the Social Science Research Council, with the aid of a three-year grant of $75,000 from The Rockefeller Foundation and grants from the Carnegie Corporation and the Ford Foundation, is sponsoring an inquiry into the operation and effects of cross-cultural education. The council plans to assemble pertinent data on the ex-

periences of foreign students in the United States, their methods of adjustment to these new experiences, and the ways in which they utilize them after returning to their own countries.

To plan and supervise this study, the council has established a Committee on Cross-Cultural Education, headed by Professor Wendell Bennett of Yale University. The committee proposes to make a thorough study of the backgrounds, experiences, problems, and achievements of a substantial number of students from three or four different countries during their first year in an American university. For comparative purposes information will be gathered on individuals who have formerly studied in the United States and on matched individuals who have not studied abroad. Data on cross-cultural education is to be systematically collected from records and publications, advisors and administrators of exchange programs, and other interested groups and individuals. The countries selected for initial study will represent the Far East, Europe, Latin America, and possibly the Near East.

OFFICE OF THE UNITED NATIONS HIGH COMMISSIONER FOR REFUGEES

In April 1951 The Rockefeller Foundation gave a grant of $100,000 to the Office of the United Nations High Commissioner for Refugees, Geneva, for a survey of the extent of the refugee problem and the most appropriate methods for its solution. Mr. Jacques Vernant, secretary general of the Centre d'Études de Politique Étrangère, Paris, was ap-

pointed by the High Commissioner to take charge of this project. A preliminary report of studies in 13 European countries and in Trieste, Egypt, Syria, and Lebanon was submitted to the High Commissioner early in 1952. The final report will include also information on surveys of the refugee situation in Pakistan and India.

The Foundation has made available to the Office of the United Nations High Commissioner for Refugees an additional sum of $20,000 toward completion of the survey of the refugee problem.

COLGATE UNIVERSITY

Impact of the ROTC Program

The Rockefeller Foundation has made available to Colgate University, Hamilton, New York, the sum of $30,000 for a pilot study of the impact of the Reserve Officers' Training Corps Program on the college curriculum. In the postwar years ROTC units have been established at an increasing number of American colleges and universities. Neither the content of the courses nor the selection of instructors for these units is under the direct control of the college faculty or administration. As the ROTC Program has expanded in scope as well as in size, the problem of its relationship to the regular curriculum of the host college has become acute. At Colgate, for example, almost 90 per cent of the 1951 freshman class was enrolled in the Air ROTC. The academic requirements of the ROTC Program have been considerably stiffened, requiring that a much larger portion of the student's time be devoted to it. Thus in some cases there has

been a tendency to infringe on work offered as part of the regular curriculum.

Colgate University proposes to make a study of these developments and their implications in an effort to work out a solution both for itself and for other institutions of higher learning faced with a similar problem. The Foundation grant will permit a small committee of faculty members, under the direction of Professor Sidney J. French, to devote part of their time over the next two years to this study. The committee expects to consult the appropriate military authorities in order to ascertain their views on the current situation and their plans for the future. The possibility of closer integration between ROTC and college programs and of more careful selection and preparation of ROTC teachers will be explored. A small conference of educators and of representatives of the armed forces in charge of ROTC Programs may be called to consider problems common to both.

NATIONAL RESEARCH COUNCIL

Human Resources Study

As the American economy becomes more complex, it becomes increasingly necessary to have available full and exact information on the nation's supply of scientists, engineers, linguists, economists, and men in other specialized fields. On one hand, it may be that our technological civilization is in the process of developing requirements for experts which are greater than we now see any way of supplying, taking into consideration the intelligence, interest, and motiva-

tion necessary for the formation of competent personnel. On the other hand, there is the possibility that the supply of trained specialists may exceed the demand, thus leaving skilled individuals without an outlet for their talents.

In 1947 the Conference Board of the Associated Research Councils, with the aid of a grant from The Rockefeller Foundation, carried out an exploratory survey of the existing supply and demand situation with regard to highly trained personnel. Results of the survey indicated the need for a systematic collection and interpretation of information on this subject. The Conference Board therefore established the Commission on Human Resources and Advanced Training, with Mr. Dael Wolfle as director, to make a comprehensive study of the specialized manpower situation in the United States.

The commission, supported by a new Foundation grant of $120,000, began its activities in October 1950. It has concentrated on three specific tasks: describing the existing supply of personnel in specialized fields, appraising the potential supply from which such specialists can be drawn, and estimating the probable future demand for highly trained personnel. In its two years of operation, the commission has made considerable progress towards the ideal of a complete inventory of America's specialized manpower needs and resources. It has brought into focus existing information on this subject, produced new data, stimulated interest in the problem of trained personnel in general, and encouraged other groups to investigate particular aspects of the question. The

commission is still the only organization attempting an over-all survey of specialized personnel in the United States. The Foundation has given the National Research Council, one of the members of the Conference Board of the Associated Research Councils sponsoring the project, a two-year grant of $100,000 towards the expenses of the Commission on Human Resources and Advanced Training.

STANFORD UNIVERSITY

Research in Communication and Psychiatry

Stanford University has received a two-year grant of $30,000 from The Rockefeller Foundation for research in the fields of communication and psychiatry under the direction of Mr. Gregory Bateson. Mr. Bateson, a cultural anthropologist, has done extensive field research in New Britain, Bali, and New Guinea. In collaboration with Mr. Jurgen Ruesch, he wrote a book entitled *Communication — the Social Matrix of Psychiatry*.

Mr. Bateson now plans to explore the so-called paradoxes of abstraction that occur in communication. These paradoxes arise when the implicit or abstract aspect of a message conflicts with the explicit or concrete content of the message. Mr. Bateson believes that an understanding of the role of these paradoxes of abstraction may be important to an understanding of mental illness and psychotherapy. The Foundation grant is to enable Mr. Bateson to test, amplify, and modify his hypotheses on the subject of these paradoxes.

The proposed research will be carried out at the Veterans Administration Hospital under the direction of an advisory committee consisting of Mr. Bateson and two or more full-time members of the Stanford University Department of Sociology and Anthropology. It is planned to record and analyze conversations with mentally ill persons of varying cultural backgrounds at the hospital. A survey is to be made of the cultural differences in humor in an attempt to clarify the implicit assumptions characteristic of a given culture. Mr. Bateson also expects to study psychiatric theories and techniques with a view to ascertaining the relationship between the presence of paradoxes within a certain theory and the effectiveness of the techniques based upon this theory.

AMERICAN COUNCIL ON EDUCATION

Committee on Religion and Education

In 1951 a representative Committee on Religion and Education appointed by the American Council on Education, with the aid of a grant from The Rockefeller Foundation, began an exploratory survey of the relation of religion to general education. The purpose of this survey, under the direction of Professor Clarence Linton of Teachers College, Columbia University, is to define the future studies and activities that can profitably be undertaken in this field by the American Council on Education and similar organizations. A considerable body of information has been collected on the attitudes of educational

and religious leaders toward the teaching of religion in the public schools. To enable the Committee on Religion and Education to complete the collection and interpretation of this material and to publish the results of the survey, the Foundation in 1952 gave the American Council on Education a new grant of $15,000 to be used over a period of four months.

GRANTS IN AID

EGYPT

Fouad I University, Institute of Journalism, Faculty of Arts, Cairo; $2,300 for expenses of a visit to the United States by Ibrahim Abdou, director of the Institute of Journalism, to gain a direct acquaintance with training for journalism in this country

GREAT BRITAIN

University of Oxford, England; $2,500 for K. C. Turpin, secretary of Faculties, to study organization and administration of American universities, graduate schools, and medical schools

JAPAN

Cultural Center Preparatory Committee, Tokyo:

$4,003 for general expenses through December 31, 1952

$2,880 as an allowance for a full-time secretary and other expenses entailed in establishing a cultural center

Science Council of Japan, Tokyo; $7,000 toward expenses of the colloquium on fundamental theoretical physics scheduled for 1953 in Kyoto

TURKEY

Ministry of Education, Ankara; $10,000 toward expenses of the 25 Turkish educators coming to the United States and Canada for a program of study and training, the sum to be

available when the additional funds necessary for the total program are secured

UNITED STATES

American Council on Education, Washington, D. C.; $6,300 for the preparation and publication of a guide to action approaches in international cultural relations, under the direction of Harold E. Snyder

Association of American Universities; $7,500 toward the expenses involved in the attendance by American delegates at the 1953 meeting of the Association of Universities of the British Commonwealth

William Y. Bell, Jr.; $750 travel expenses to and from Omnen, Netherlands, where he has served as an instructor in a study course for teachers organized by the Standing Conference of Internationally-Minded Schools in consultation with UNESCO

National Citizens' Committee for United Nations Day, Washington, D. C.; $10,000 for the work of the committee in preparing the nation-wide observance of United Nations Day on October 24

Herman Silberman of the Boston Symphony Orchestra; $500 for expenses in connection with his service as a member of the jury at the International Competition of String Quartets held at the Royal Conservatory of Music in Liège, Belgium

FELLOWSHIPS

for 1951 and 1952

FELLOWSHIPS

IN the two years since the publication of *The Rockefeller Foundation Directory of Fellowship Awards, 1917–1950*, a total of 416 new fellowship awards have been made: 213 for 1951, and 203[1] for 1952. A listing of the new awards operative in 1951 and 1952 is included in this fellowship section.

	1951	1952
International Health Division (IHD)[2]	34	—
Medical Sciences (MS)[2]	18	—
Division of Medicine and Public Health (DMPH)	45	87
Division of Natural Sciences and Agriculture (DNSA or NS)[3]	51	32
Division of Social Sciences (DSS)	33	28
Division of Humanities (DH)	32	23
	213	170

In addition to these new awards, 162 fellowships in 1951 were continued from previous years, and 209 were carried over in 1952. The total number of persons holding fellowships during the year 1951 was therefore 375, and in 1952 the figure was 379.

For its fellowship activities in 1952, The Rockefeller Foundation made available a total of $1,050,-

[1] This includes 33 awards that were made during 1952 but did not become operative before December 31; the individuals who received these fellowships are not listed by name.
[2] The International Health Division and the Medical Sciences were consolidated in 1951 to form the Division of Medicine and Public Health.
[3] The Natural Sciences division was renamed Division of Natural Sciences and Agriculture in 1951.

000. To advance this program in 1953, the sum of $1,025,000 was allocated for use by the several divisions as follows: Medicine and Public Health, $400,000; Natural Sciences and Agriculture, $300,000; Social Sciences, $175,000; and Humanities, $150,000.

In addition to fellows appointed directly by the Foundation, certain national agencies have administered fellowships from funds appropriated by the Foundation in previous years. The numbers of awards made by these agencies during 1951 and 1952 were as follows:

		1951		1952
National Research Council				
Medical Sciences	8		6	
Welch Fellows	1	20	0	19
Natural Sciences	11		13	
Social Science Research Council		26		31
Canadian Social Science Research Council		18		18
American Council of Learned Societies		40		38
National Theatre Conference		12		5
British Medical Research Council		8		6
		124		117

Grants made in 1952 to outside agencies for fellowship purposes consisted of $50,000 to the British Medical Research Council for fellowships in the medical sciences over a two-year period, and $2,250 toward the expenses during the next three years of an Australian-New Zealand committee which advises on the selection of fellows in the social sciences.

Below is a listing of the individuals who in 1951 and 1952 held fellowships financed and administered

by The Rockefeller Foundation and awarded either by the Foundation itself or by the British Medical Research Council. The fellowships awarded by the BMRC have been included in this listing, since the fellows received guidance and supervisory assistance from Foundation fellowship advisers.

The following information is included for each individual: name; country of origin; date of birth; highest degree; institution awarding degree; date of degree; major field of interest; fellowship-awarding agency or division; institution with which fellow was affiliated at appointment; principal countries of fellowship study; and dates of fellowship.

ABAD-LÓPEZ, GUILLERMO A. (*Peru*) *b. 1926.* Univ. of San Marcos, Lima, 1946–50. Statistics (IHD). Appointed from Peru. *Place of Study:* Chile, 1951.

ABRAHAMSEN, RUTH MATHILDE (*Norway*) *b. 1916.* D.P.H.N., State School of Public Health Nursing, Oslo, 1948. Public Health Nursing (DMPH). Appointed from County of Finnmark. *Place of Study:* Canada, U.S.A., 1952–.

AGOSÍN KANLKOSKY, MOISÉS (*Chile*) *b. 1922.* M.D., Univ. of Chile, Santiago, 1948. Pathology (DMPH). Appointed from Univ. of Chile. *Place of Study:* U.S.A., 1952–.

ALEYKUTTY, K. PAULOSE (*India*) *b. 1922.* School of Nursing Admin., Delhi, 1948–49. Nursing Education (IHD). Appointed from Coll. of Nursing, New Delhi. *Place of Study:* U.S.A., 1951–.

ALLEWAERT, RENÉ JULES MAURICE (*France*) *b. 1920.* Agrégation d'Anglais, Univ. of Lille 1947. Criticism (DH). Appointed from Brown Univ. *Place of Study:* U.S.A., 1951–.

ANAGNOSTAKIS, ALKIS (*Greece*) *b. 1922.* Dipl., Gymnasium, Salonika, 1944. Mass Media (DH). Appointed from National Radio Inst. of Greece, Salonika. *Place of Study:* U.S.A., Canada, 1951–52.

ANCELIN, JACQUELINE (*France*) *b. 1927.* Collège Moderne, Channy, 1945. Medical Social Work (DMPH). Appointed from Préfecture de la Seine, School Health Services, Paris. *Place of Study:* France, U.S.A., 1951–.

ANCONA, LEONARDO (*Italy*) *b. 1922.* M.D., State Univ. of Milan 1946. Social Psychology (DSS). Appointed from Catholic Univ. and Hosp., Milan. *Place of Study:* U.S.A., 1952–53.

ANDERSSON, BENGT ERIK (*Sweden*) *b. 1923.* D.V.M., Univ. of Stockholm 1951. Physiology (DMPH). Appointed from Univ. of Stockholm. *Place of Study:* England, 1952–.

ANDRADE, ZILTON (*Brazil*) *b. 1924.* M.D., Univ. of Bahia 1950. Pathology (DMPH). Appointed from Tulane Univ. *Place of Study:* U.S.A., 1952–53.

ANDREAZI, FERNANDO (*Brazil*) *b. 1914.* D.V.M., Univ. of São Paulo 1938. Agriculture (DNSA). Appointed from Univ. of São Paulo. *Place of Study:* U.S.A., 1952–.

ANGER, HANS H. (*Germany*) *b. 1920.* M.D., Univ. of Marburg 1947. Education (DSS). Appointed from Inst. of Educ. Research, Frankfurt. *Place of Study:* U.S.A., 1951–52.

ANTUNES FILHO, HERMINDO (*Brazil*) *b. 1923.* Agron., Univ. of São Paulo 1945. Agriculture (NS). Appointed from Inst. of Agron., Campinas. *Place of Study:* U.S.A., Central and South America, 1951–52.

AOYAMA, HIDEO (*Japan*) *b. 1910.* B.A., Kyoto Univ. 1932. Economics (DSS). Appointed from Kyoto Univ. *Place of Study:* U.S.A., 1952–.

APPLEYARD, RAYMOND KENELM (*U.S.A.*) *b. 1922.* Ph.D., Univ. of Cambridge 1949. Biology (NS). Appointed from Yale Univ. *Place of Study:* U.S.A., 1951–.

ARAUJO, RENATO LION DE (*Brazil*) *b. 1912.* Biol. Inst., São Paulo. Agriculture (DNSA). Appointed from Biol. Inst. *Place of Study:* U.S.A., 1952–53.

ARDUINI, ARNALDO (*Italy*) *b. 1924.* M.D., Univ. of Parma 1949. Physiology (DMPH). Appointed from Univ. of Pisa. *Place of Study:* U.S.A., 1952–.

ARI, AZMI BOZKURT (*Turkey*) *b. 1921.* M.D., Univ. of Istanbul 1945. Virology (DMPH). Appointed from Central Inst. of Hygiene, Ankara. *Place of Study:* U.S.A., 1952–.

ARMIJO-ROJAS, ROLANDO (*Chile*) *b. 1921.* M.D., Univ. of Chile, Santiago, 1946. Public Health Administration (DMPH). Appointed from Rural Health Service, Aconcagua. *Place of Study:* U.S.A., 1952–.

ARNHEIM, RUDOLF (*U.S.A.*) *b. 1904.* Ph.D., Univ. of Berlin 1928. Radio; Language, Logic, and Symbolism (DH). Appointed from 1) Office of Radio Research, Columbia Univ.; 2) Sarah Lawrence Coll. *Place of Study:* U.S.A., 1941; 1951–52.

ARNOLDSSON, ERIK SVERKER (*Sweden*) *b. 1908.* Ph.D., Univ. of Gothenburg 1937. Latin American Studies (DH). Appointed from Univ. of Gothenburg. *Place of Study:* South America, Mexico, U.S.A., 1951–52.

ARORA, RAM BEHARI (*India*) *b. 1917.* M.D. in Pharm., King George's Med. Coll., Lucknow, 1948. Pharmacology (DMPH). Appointed from Sawai Mansingh Med. Coll., Jaipur. *Place of Study:* U.S.A., England, 1951–53.

ARRELANO ZAPATERO, R. CELSO (*Peru*) *b. 1909.* Médico, San

Marcos Coll., Lima, 1939. Public Health Laboratory (DMPH). Appointed from Bravo Chico Tuberculosis Hosp., Lima. *Place of Study:* U.S.A., 1951–52.

AWAD, LEWIS (*Egypt*) *b. 1915.* M.Litt., Univ. of Cambridge 1943. Criticism (DH). Appointed from Fouad I Univ., Cairo. *Place of Study:* U.S.A., 1951–.

AWAN, AKHTAR HUSSAIN (*Pakistan*) *b. 1919.* M.B.B.S., Med. Coll., Lahore, 1943. Public Health Administration (DMPH). Appointed from Mayo Hosp., Lahore. *Place of Study:* U.S.A., 1952–.

AYALON, DAVID (*Israel*) *b. 1914.* Ph.D., Hebrew Univ., Jerusalem, 1946. Near Eastern Studies (DH). Appointed from Hebrew Univ. *Place of Study:* England, France, 1952.

BACHMANN DE MELLO, MARIA MARGARIDA (*Portugal*) *b. 1929.* Dipl., Professional School of Nursing, Lisbon, 1950. Nursing Education (IHD). Appointed from Professional School of Nursing, Portuguese Oncological Inst., Lisbon. *Place of Study:* U.S.A., Canada, 1951–52.

BACILA, METRY (*Brazil*) *b. 1922.* M.D., Univ. of Paraná 1946. Biology (DNSA). Appointed from Inst. of Biol. and Tech. Research, Curitiba. *Place of Study:* U.S.A., 1952.

BAICHÈRE, PIERRE F. J. (*France*) *b. 1925.* D.E.S., Univ. of Paris 1950. Economics (DSS). Appointed from Inst. de Science Économique Appliquée, Paris. *Place of Study:* U.S.A., 1951–53.

BARGMANN, ROLF (*Germany*) *b. 1921.* Verbands-examen in Chem., Univ. of Berlin 1941. Education (DSS). Appointed from Inst. of Educ. Research, Frankfurt. *Place of Study:* U.S.A., 1951–52.

BARKER, GEOFFREY ROBERT (*England*) *b. 1917.* Ph.D., Univ. of Nottingham 1943. Biochemistry (NS). Appointed from Univ. of Manchester. *Place of Study:* U.S.A., 1951–52.

BARLINDHAUG, RANDI (*Norway*) *b. 1912.* Postgrad. Course for Sister Tutors, Norwegian Nurses Assoc. School 1947–48. Nursing Education (IHD). Appointed from Bodø Hosp. *Place of Study:* U.S.A., Canada, 1951–52.

BARLTROP, JOHN ALFRED (*England*) *b. 1920.* Ph.D., Univ. of Oxford 1944. Biochemistry (DNSA). Appointed from Univ. of Oxford. *Place of Study:* U.S.A., 1952–.

BAYMUR, FERIHA HANDAN NACI (*Turkey*) *b. 1915.* Dipl., Gazi Training Coll., Ankara, 1937. Philosophy (DH). Appointed from Ministry of Educ. *Place of Study:* U.S.A., 1952–.

BEDDIE, BRIAN DUGAN (*Australia*) *b. 1920.* B.A., Univ. of Sydney 1942. Political Science (DSS). Appointed from Univ. Coll., Canberra. *Place of Study:* England, 1952–.

BERGAMIN, JACOB (*Brazil*) *b. 1909.* Agron.Eng., Luiz de Queiroz School of Agric., Piracicaba, 1933. Agriculture (DNSA). Appointed from Luiz de Queiroz

School of Agric. *Place of Study:* U.S.A., 1952–53.

BERNARDELLI, HARRO (*New Zealand*) *b. 1906.* Ph.D., Univ. of Frankfurt 1931. Economics (DSS). Appointed from Univ. of Otago, Dunedin. *Place of Study:* England, Holland, France, 1951–52.

BERRY, ELBERT LOWELL (*U.S.A.*) *b. 1917.* M.D., Med. Coll. of Virginia 1948. Industrial Hygiene (DMPH). Appointed from Carbide and Carbon Chem. Corp., South Charleston, W.Va. *Place of Study:* U.S.A., 1951–52.

BERSCH, MARIE CECIL (*Switzerland*) *b. 1913.* Le Bon Secours School of Nursing, Geneva, 1936–38, 1940. Public Health Nursing (DMPH). Appointed from Le Bon Secours Service de Ville, Geneva. *Place of Study:* U.S.A., 1952–.

BIBILE, ELIZABETH MONICA (*Ceylon*) *b. 1926.* Cert., Nurses Training School, Colombo, 1944–47. Nursing Education (DMPH). Appointed from public health nursing, Colombo. *Place of Study:* Canada, U.S.A., 1952–.

BIERI, HERMANN G. (*Switzerland*) *b. 1914.* Dr.rer.pol., Univ. of Bern 1941. Economics (DSS). Appointed from Swiss Mercantile School, Zurich. *Place of Study:* U.S.A., 1951–52.

BISSAR, FARIDE ABDULLATIF (*Lebanon*) *b. 1913.* M.D., Univ. of Munich 1945. Near Eastern Studies (DH). Appointed from United Nations Educational, Scientific and Cultural Organization. *Place of Study:* Egypt, 1951.

BLACK, FRANCIS LEE (*Canada*) *b. 1926.* Ph.D., Univ. of California 1952. Virology (DMPH). Appointed from Univ. of California. *Place of Study:* U.S.A., 1952–.

BLAKEY, KENNETH ALAN (*New Zealand*) *b. 1916.* M.Sc., Univ. of London 1947. Economics (DSS). Appointed from Univ. of Otago, Dunedin. *Place of Study:* England, 1952–.

BOERI, ENZO (*Italy*) *b. 1914.* M.D., Univ. of Milan 1938. Biology (NS). Appointed from Univ. of Naples. *Place of Study:* Sweden, 1951–53.

BOGDANOVITCH, SINISHA B. (*Yugoslavia*) *b. 1906.* M.D., Univ. of Belgrade 1930. Biology (NS). Appointed twice from Univ. of Belgrade. *Place of Study:* U.S.A., 1936–37; France, 1951–52.

BOHNERT, LEA MALLISON (*U.S.A.*) *b. 1919.* M.A., Univ. of Chicago 1947. Language, Logic, and Symbolism (DH). Appointed from National Lead Co., Sayreville, N.J. *Place of Study:* U.S.A., 1951–52.

BONOLDI, VIRGILIO (*Brazil*) *b. 1910.* Médico, Univ. of Brazil, Rio de Janeiro, 1935. Biochemistry (NS). Appointed from Univ. of São Paulo. *Place of Study:* U.S.A., 1951–52.

BOSE, PASHUPATI (*India*) *b. 1907.* M.B.B.S., K.G. Kar Med. Coll., Calcutta, 1932. Anatomy (DMPH). Appointed from Med. Coll., Calcutta. *Place of Study:* U.S.A., 1952–.

BOTTOMORE, THOMAS BURTON (*England*) *b. 1920.* M.Sc., London School of Econ. and Polit.

Sci. 1949. Sociology (DSS). Appointed from Univ. of London. *Place of Study:* France, 1951–52.

BOULA DE MAREUIL, AMÉLIE (*France*) *b. 1923.* State Dipl., École d'Assistantes Sociales, École Pasteur, Cherbourg, 1949. Medical Social Work (DMPH). Appointed from Assoc. of Social Hygiene of Aisne. *Place of Study:* U.S.A., 1952–.

BRATLIE, SOLVEIG (*Norway*) *b. 1912.* Ulleval Hosp. School of Nursing, Oslo, 1938–41. Nursing Education (IHD). Appointed from Ulleval Hosp. School of Nursing. *Place of Study:* U.S.A., 1951.

BROE, ELLEN JOHANNE (*Denmark*) *b. 1900.* Cert., School of Nursing, Bispebjerg Hosp., Copenhagen, 1924. Nursing Education (IHD). Appointed from Univ. of Aarhus. *Place of Study:* U.S.A., 1951.

BROTHERS, GEORGE BENNETT (*U.S.A.*) *b. 1919.* M.D., Meharry Med. Coll. 1944. Medicine (MS). Appointed from Meharry Med. Coll. *Place of Study:* U.S.A., 1951–52.

BUCK, CAROL KATHLEEN WHITLOW (*Canada*) *b. 1925.* M.D., Univ. of Western Ontario, London, Canada, 1947; Ph.D., 1950. Hygiene and Preventive Medicine (MS). Appointed from fellowship at the London School of Hygiene and Trop. Med., on leave of absence from Univ. of Western Ontario. *Place of Study:* England, 1951–52.

BURNETT, WILLIAM (*Scotland*) *b. 1921.* M.B.B.S., Univ. of Aberdeen 1943. Surgery (BMRC). Appointed from Aberdeen Royal Infirmary. *Place of Study:* U.S.A., 1951–52.

BUSK, THØGER (*Denmark*) *b. 1917.* Cand.actuary, Univ. of Copenhagen 1941. Statistics (DSS). Appointed from Univ. of Copenhagen. *Place of Study:* U.S.A., 1952–.

CALIGARIS, LAURA CALIOPI SINODINOS DE (*Argentina*) *b. 1913.* Biochem., National Univ. of Córdoba 1943. Chemistry (MS). Appointed from Mercedes and Martin Ferreyra Inst. of Med. Research, Córdoba. *Place of Study:* Canada, U.S.A., 1951–52.

CAMPOS, MARCELLO DE MOURA (*Brazil*) *b. 1921.* D.Sc., Univ. of São Paulo 1950. Chemistry (NS). Appointed from Univ. of São Paulo. *Place of Study:* U.S.A., 1951–52.

CANO CORONA, OCTAVIO (*Mexico*) *b. 1921.* Lic., National Univ. of Mexico, Mexico, D.F., 1946. Physics (NS). Appointed from National Univ. of Mexico. *Place of Study:* U.S.A., 1951–.

CARRANZA FRASER, JORGE (*Mexico*) *b. 1927.* Biologist, National School of Biol. Sci., National Polytech. Inst., Mexico, D.F., 1950. Agriculture (NS). Appointed from Commission for the Development of Rural Fish Culture, Mexico, D.F. *Place of Study:* U.S.A., 1952–53.

CASSEL, JOHN CHARLES (*Union of South Africa*) *b. 1921.* M.B.B.S., Univ. of Witwatersrand, Johannesburg, 1945. Public Health Administration

(DMPH). Appointed from Polela Health Center, Bulwer, Natal. *Place of Study:* U.S.A., 1952–.

CASTRO, AMADO ALEJANDRO (*Philippines*) *b. 1924.* B.S., Univ. of the Philippines 1948. Economics (DSS). Appointed from Univ. of the Philippines. *Place of Study:* U.S.A., 1951–52.

CERF, ROGER (*France*) *b. 1924.* D.Sc., Univ. of Strasbourg 1950. Biochemistry (NS). Appointed from Univ. of Strasbourg. *Place of Study:* U.S.A., 1951.

CHAKRAVARTI, HIMANSU SEKHAR (*India*) *b. 1919.* M.D., Univ. of Calcutta 1949. Physiology (DMPH). Appointed from Calcutta School of Trop. Med. *Place of Study:* U.S.A., Canada, England, 1951–52.

CHANDA, SAMARES KUMAR (*India*) *b. 1923.* Ph.D., Univ. of Manchester 1949. Chemistry (NS). Appointed from Univ. of Edinburgh. *Place of Study:* U.S.A., 1951.

CHANDRAMATHY, G. (*India*) *b. 1925.* Dipl., Christian Med. Coll. Hosp., Vellore, 1950. Nursing Education (DMPH). Appointed from School of Nursing, Trivandrum, Travancore. *Place of Study:* U.S.A., 1952–.

CHATTERJEE, SAILENDRA KUMAR (*India*) *b. 1912.* M.B., Med. Coll., Calcutta, 1937. Surgery (DMPH). Appointed from Mayo Hosp., Calcutta. *Place of Study:* Denmark, 1952–.

CHELVAKUMARAN, T. S. (*India*) *b. 1917.* M.B.B.S., Madras Med. Coll. 1943. Anatomy (DMPH). Appointed from Madras Med. Coll. *Place of Study:* U.S.A., Canada, 1951–52.

CH'EN, CHENG TEH (*Taiwan*) *b. 1923.* M.D., National Taiwan Univ., Taipei, 1947. Public Health Administration (IHD). Appointed from Taiwan Provincial Malaria Research Inst., Taichung. *Place of Study:* U.S.A., 1951–52.

CHOWDHARY, DHIRENDRANATH SINGH (*India*) *b. 1919.* M.B.B.S., King George's Med. Coll., Lucknow, 1941; M.S., Med. Coll., Agra, 1949. Anatomy (DMPH). Appointed from Med. Coll., Agra. *Place of Study:* Scotland, 1952-53.

CHURCHILL, MILO ALBERT (*U.S.A.*) *b. 1912.* B.S., Univ. of Illinois 1933. Public Health Administration (DMPH). Appointed from Tennessee Valley Authority. *Place of Study:* U.S.A., 1951–52.

CLARK, VICTOR MALCOLM (*England*) *b. 1925.* Ph.D., Univ. of Cambridge 1951. Biochemistry (NS). Appointed from Univ. of Cambridge. *Place of Study:* U.S.A., 1951–52.

CLAUSER, HUBERT J. (*France*) *b. 1922.* D.Sc., Univ. of Paris 1951. Biochemistry (DNSA). Appointed from National Center of Scientific Research, Paris. *Place of Study:* U.S.A., 1952–.

COCRON, FRITZ (*Austria*) *b. 1918.* Ph.D., Univ. of Vienna 1949. Language, Logic, and Symbolism (DH). Appointed from Univ. of Paris. *Place of Study:* France, 1952–53.

COHN, HELEN DOROTHY (*Union of South Africa*) *b. 1912.* S.C.

Midwife, Liverpool Maternity Hosp. 1937. Public Health Nursing (DMPH). Appointed from Inst. of Family and Community Health, Durban. *Place of Study:* U.S.A., 1952–.

COLOMBO, BERNARDO (*Italy*) *b. 1919.* Dr. in Econ. and Comm., Catholic Univ. of the Sacred Heart, Milan, 1941. Statistics (DSS). Appointed from Univ. Inst. of Econ. and Comm., Venice. *Place of Study:* U.S.A., 1951–52.

CONAGIN, ARMANDO (*Brazil*) *b. 1922.* Agron., Univ. of São Paulo 1943. Agriculture (NS). Appointed from Inst. of Agron., Campinas. *Place of Study:* U.S.A., 1951–52.

CORDEIRO, ANTONIO RODRIGUES (*Brazil*) *b. 1923.* Lic., Faculty of Philos., Univ. of Rio Grande do Sul, Pôrto Alegre, 1947. Biology (NS). Appointed from Univ. of Rio Grande do Sul. *Place of Study:* U.S.A., 1951–52.

CORREA, JAVIER (*Peru*) *b. 1925.* M.D., Univ. of San Marcos, Lima, 1951. Endocrinology (DMPH). Appointed from Inst. of Andean Biol., Lima. *Place of Study:* U.S.A., 1951–.

CRAIG, JOHN PHILIP (*U.S.A.*) *b. 1923.* M.D., Western Reserve Univ. 1947. Public Health Administration (DMPH). Appointed from U.S. Army 406th Med. General Lab. *Place of Study:* U.S.A., 1952–.

CREETH, JAMES MICHAEL (*England*) *b. 1924.* Ph.D., Univ. of London 1948. Biochemistry (DNSA). Appointed from Courtauld Inst. of Biochem., Middlesex Hosp. Med. School, London. *Place of Study:* U.S.A., 1952–.

CREUSVAUX, GENEVIÈVE (*France*) *b. 1920.* Ph.B., Notre Dame des Anges, Dijon, 1939. Medical Social Work (DMPH). Appointed from Assoc. for Abnormal and Delinquent Children, Lille. *Place of Study:* France, 1951–52.

DALEM, JACQUES O. A. (*Belgium*) *b. 1920.* M.D., Univ. of Liège 1945. Surgery (DMPH). Appointed from Univ. of Liège. *Place of Study:* U.S.A., 1951–52.

DALY, MICHAEL DE BURGH (*England*) *b. 1922.* M.B.B.S., Univ. of Cambridge 1947. Physiology (BMRC). Appointed from Univ. Coll., London. *Place of Study:* U.S.A., 1952–.

DAVID, MYRIAM F. (*France*) *b. 1917.* M.D., Univ. of Paris 1942. Psychiatry and Psychology (MS). Appointed from 1) Judge Baker Guidance Center, Boston; 2) Clinique des Enfants Malades, Paris. *Place of Study:* U.S.A., 1948–49; France, 1951–53.

DEDECCA, DALVO MATTOS (*Brazil*) *b. 1922.* Agron., Univ. of São Paulo 1945. Agriculture (NS). Appointed from Inst. of Agron., Campinas. *Place of Study:* U.S.A., 1951–52.

DE GRUCHY, GORDON CARL (*Australia*) *b. 1922.* M.D., Univ. of Melbourne 1948. Physiology (MS). Appointed from Postgrad. Med. School of London. *Place of Study:* U.S.A., 1951.

DELLA PORTA, GLAUCO (*Italy*) *b. 1920.* LL.D., Univ. of Rome

1945. Economics (DSS). Appointed from Inst. of Econ. and Finance, Univ. of Rome. *Place of Study:* U.S.A., Canada, 1951–52.

DEMETILLO, RICAREDO D. (*Philippines*) *b. 1920.* M.F.A., State Univ. of Iowa 1952. Literature (DH). Appointed from State Univ. of Iowa. *Place of Study:* U.S.A., 1952.

DEPIERRE, FRANCE (*France*) *b. 1914.* Dipl. as Chemist, Faculty of Sci., Univ. of Paris, 1936. Pharmacology (DMPH). Appointed from Pasteur Inst., Paris. *Place of Study:* U.S.A., 1952–.

DE RUSETT, ALAN WILLIAM (*England*) *b. 1916.* M.A., Downing Coll., Univ. of Cambridge, 1942. Political Science (DSS). Appointed from Univ. of Leeds. *Place of Study:* U.S.A., 1951–52.

DESREUX, VICTOR DANIEL (*Belgium*) *b. 1910.* Dr. in Chem., Univ. of Ghent 1934. Biochemistry (NS). Appointed from Univ. of Liège. *Place of Study:* U.S.A., 1951.

DIETERICH, BERND (*Germany*) *b. 1925.* Dipl.Eng., Inst. of Tech., Stuttgart, 1950. Sanitary Engineering (IHD). Appointed from Inst. of Tech. *Place of Study:* U.S.A., 1951–.

DOOLEY, WALLACE TROY (*U.S.A.*) *b. 1917.* M.D., Meharry Med. Coll. 1947. Surgery (DMPH). Appointed from Meharry Med. Coll. *Place of Study:* U.S.A., 1951–52.

DORPINGHAUS, GERTRUD ERNA (*Germany*) *b. 1912.* R.N., State Hosp., Berlin, 1938. Public Health Nursing (IHD). Appointed from Altmuhle. *Place of Study:* U.S.A., 1951–52.

DREYER, KAREN (*Denmark*) *b. 1919.* Cand.Act., Univ. of Copenhagen 1938–45. Biostatistics (IHD). Appointed from Danish National Health Service, Copenhagen. *Place of Study:* U.S.A., 1951–52.

DUBBINK, JAN HENDRIKUS (*Netherlands*) *b. 1910.* Ph.D., Univ. of Nijmegen 1945. Slavic Studies (DH). Appointed from Rockefeller Foundation Grant in Aid, Paris. *Place of Study:* France, Holland, England, 1951–52.

DUMMER-OSWALD, WALTER (*Chile*) *b. 1920.* Ch.E., Univ. of Chile, Santiago, 1950. Industrial Hygiene (DMPH). Appointed from National Health Dept. of Chile, Santiago. *Place of Study:* U.S.A., 1952–.

EHRENSTEIN, MAXIMILIAN RICHARD (*Germany; U.S.A.*) *b. 1899.* Ph.D., Univ. of Göttingen 1921. Chemistry (IEB;NS). Appointed from 1) Breslau Inst. of Tech.; 2) Univ. of Pennsylvania. *Place of Study:* Switzerland, 1925–26; Europe, 1952.

ELLIOTT, WILLIAM HERDMAN (*England*) *b. 1925.* Ph.D., Univ. of Cambridge 1950. Biochemistry (NS). Appointed from Univ. of Cambridge. *Place of Study:* U.S.A., 1951–52.

ENGSTROM, ARNE VILHELM (*Sweden*) *b. 1920.* M.D., Karolinska Inst., Stockholm, 1946. Biology (NS). Appointed from Karolinska Inst. *Place of Study:* U.S.A., 1951.

EVENSEN, JENS (*Norway*) *b. 1917.* LL.B., Univ. of Oslo 1942. International Law (DSS). Appointed from Univ. of Oslo. *Place of Study:* U.S.A., 1952–53.

EXCHAQUET, NICOLE FRANCE (*Switzerland*) *b. 1915.* Dipl., Le Bon Secours School of Nursing, Geneva, 1939. Public Health Nursing (DMPH). Appointed from Pouponnière Nestlé, Vevey. *Place of Study:* U.S.A., 1951–52.

FAXÉN, KARL O. (*Sweden*) *b. 1924.* Phil.lic., Univ. of Stockholm 1951. Economics (DSS). Appointed from School of Econ., Stockholm. *Place of Study:* U.S.A., 1951–52.

FERNÁNDEZ, JOSÉ MARÍA GONZÁLEZ (*Argentina*) *b. 1922.* M.D., National Coll. of Buenos Aires 1946. Physiology (MS). Appointed from Center of Cardiol. Investigations, Buenos Aires. *Place of Study:* U.S.A., 1951–.

FIDANZA, FLAMINIO (*Italy*) *b. 1920.* M.D., Univ. of Naples 1945. Chemistry (DMPH). Appointed from Univ. of Naples. *Place of Study:* U.S.A., 1952–.

FILIPOVIĆ, MILENKO S. (*Yugoslavia*) *b. 1902.* Ph.D., Univ. of Belgrade 1928. Anthropology (DSS). Appointed from Inst. of Ethnography, Serbian Acad. of Sci., Belgrade. *Place of Study:* U.S.A., 1951–52.

FINLAYSON, LAWRENCE HUNTER (*England*) *b. 1924.* Ph.D., Univ. of Birmingham 1949. Biology (DNSA). Appointed from Univ. of Birmingham. *Place of Study:* U.S.A., 1952–.

FISCHER, RUDOLF (*Switzerland*) *b. 1925.* Dr.rer.pol., Univ. of Basel 1950. Economics (DSS). Appointed from Swiss Economic Archives, Basel. *Place of Study:* U.S.A., England, 1951–52.

FISCHER-JØRGENSEN, ELI (*Denmark*) *b. 1911.* M.A., Univ. of Copenhagen 1936. Language, Logic, and Symbolism (DH). Appointed from Univ. of Copenhagen. *Place of Study:* U.S.A., 1952.

FRAGA, CONSTANTINO GONÇALVES, JR. (*Brazil*) *b. 1907.* Agron.Eng., Univ. of São Paulo 1932. Agriculture (DNSA). Appointed from Inst. of Agron., Campinas. *Place of Study:* England, 1952–.

FRANKENBERG, LLOYD (*U.S.A.*) *b. 1907.* Columbia Coll. 1924–29. Mass Media (DH). Appointed from free-lance writing, New York. *Place of Study:* U.S.A., 1952.

FRIGHI, LUIGI (*Italy*) *b. 1922.* M.D., Univ. of Bologna 1947. Psychiatry (DMPH). Appointed from Univ. of Bologna. *Place of Study:* U.S.A., 1951–.

FRISCH, MAX RUDOLF (*Switzerland*) *b. 1911.* Univ. of Zurich. Drama (DH). Appointed from Switzerland. *Place of Study:* U.S.A., 1951–52.

FROTA MOREIRA, MANOEL DA (*Brazil*) *b. 1916.* M.D., Univ. of Brazil, Rio de Janeiro, 1940. Biology (DNSA). Appointed from Univ. of Brazil. *Place of Study:* England, 1952–.

FUNAKAWA, HATAO (*Japan*) *b. 1914.* M.D., Hokkaido Univ.,

Sapporo, 1945. Public Health Administration (DMPH). Appointed from Inst. of Public Health, Tokyo. *Place of Study:* U.S.A., 1952–.

FURUYA, HIROSHI (*Japan*) *b. 1920.* M.A., Tokyo Univ. 1942. Economics (DSS). Appointed from Tokyo Univ. *Place of Study:* U.S.A., 1952–.

GAETE MELLA, EUGENIA (*Chile*) *b. 1909.* Cert. Nursing Educ., Univ. of Toronto 1945. Nursing Education (IHD). Appointed from 1) San José de Maipo Sanatorium; 2) Beneficencia Nursing School, Santiago. *Place of Study:* Canada, U.S.A., 1944–45; 1951.

GALLARDO KOCH, ELISEO (*Chile*) *b. 1924.* D.V.M., Univ. of Chile, Santiago, 1948. Agriculture (DNSA). Appointed from Bacteriol. Inst., Santiago. *Place of Study:* U.S.A., 1952.

GÅRDLUND, TORSTEN WALDAMAR (*Sweden*) *b. 1911.* Ph.D., Univ. of Stockholm 1942. Economics (DSS). Appointed from School of Econ., Stockholm. *Place of Study:* England, 1951.

GARROD, OLIVER (*England*) *b. 1915.* M.D., Univ. of London 1948. Medicine (BMRC). Appointed from Postgrad. Med. School of London. *Place of Study:* U.S.A., 1951–52.

GEIBEL, LIESELOTTE SCHOLZ (*Germany*) *b. 1912.* Marburg Univ. Hosp. 1948. Public Health Nursing (DMPH). Appointed from Ludolf Krehl Clinic, Heidelberg. *Place of Study:* U.S.A., 1952–.

GELLNER, ERNEST ANDRÉ (*England*) *b. 1925.* B.A., Univ. of Oxford 1947. Social Philosophy (DSS). Appointed from London School of Econ. and Polit. Sci. *Place of Study:* U.S.A., 1952–53.

GEORGE, PHILIP (*England*) *b. 1920.* Ph.D., Univ. of Cambridge 1945. Biochemistry (NS). Appointed from Univ. of Cambridge. *Place of Study:* U.S.A., 1951.

GINGER-MORTENSEN, ELLEN ELISE (*Denmark*) *b. 1920.* Univ. of Aarhus 1949–50. Nursing Education (DMPH). Appointed from Univ. of Aarhus. *Place of Study:* U.S.A., 1951–52.

GONZÁLEZ GODOY, CARLOS EDUARDO (*Peru*) *b. 1929.* D.V.M., Univ. of San Marcos, Lima, 1951. Veterinary Medicine (DNSA). Appointed from Univ. of San Marcos. *Place of Study:* U.S.A., 1952–.

GOSWAMI, NALINAKSHA (*India*) *b. 1921.* M.B., K. G. Kar Med. Coll., Calcutta, 1945. Anatomy (DMPH). Appointed from Nilratan Sarkar Med. Coll., Calcutta. *Place of Study:* U.S.A., 1951–52.

GRANDJEAN, ÉTIENNE (*Switzerland*) *b. 1914.* M.D., Univs. of Geneva and Bern 1939. Industrial Hygiene (IHD). Appointed from Federal Tech. Inst., Zurich. *Place of Study:* U.S.A., 1951.

GREGORY, THOMAS MONTGOMERY (*U.S.A.*) *b. 1921.* M.D., Meharry Med. Coll. 1951. Chemistry (DMPH). Appointed from Meharry Med. Coll. *Place of Study:* U.S.A., 1952–.

GRESS, ELSA JUDITH (*Denmark*) *b. 1919.* M.A., Univ. of Copenhagen 1944. Criticism (DH). Appointed from Columbia Univ. *Place of Study:* U.S.A., 1952.

GREWAL, MOHINDER SINGH (*India*) *b. 1919.* M.B.B.S., King Edward Med. Coll., Lahore, 1941. Pharmacology (DMPH). Appointed from Med. Coll., Amritsar. *Place of Study:* U.S.A., 1951–52.

GRIGSBY, MARGARET ELIZABETH (*U.S.A.*) *b. 1923.* M.D., Univ. of Michigan 1948. Medicine (DMPH). Appointed from Howard Univ., Washington, D.C. *Place of Study:* U.S.A., 1951–52.

GROBBELAAR, NATHANAËL (*Union of South Africa*) *b. 1928.* M.Sc., Univ. of Pretoria 1952. Biology (DNSA). Appointed from Univ. of Pretoria. *Place of Study:* U.S.A., 1952–.

GROSSMAN, JOSÉ (*Brazil*) *b. 1900.* Agric., Hochschule, Bonn, Germany, 1925. Agriculture (NS). Appointed from Univ. of Rio Grande do Sul and State Secretariat of Agric., Pôrto Alegre. *Place of Study:* U.S.A., Central and South America, 1951–52.

GROVE, JACK WILLIAM (*England*) *b. 1920.* B.S., Univ. of London 1949. Political Science (DSS). Appointed from Univ. of Manchester. *Place of Study:* U.S.A., 1952–53.

GRYGIER, TADEUSZ (*England*) *b. 1915.* Ph.D., London School of Econ. and Polit. Sci. 1950. Psychology (DSS). Appointed from Inst. for the Study and Treatment of Delinquency, London. *Place of Study:* U.S.A., 1952–53.

GÜNYOL, VEDAT (*Turkey*) *b. 1911.* LL.D., Univ. of Paris 1948. Criticism (DH). Appointed from Univ. of Istanbul. *Place of Study:* U.S.A., 1952–53.

GUSMÃO, HERMELINO HERBSTER (*Brazil*) *b. 1920.* M.D., Univ. of São Paulo 1944. Public Health Administration (DMPH). Appointed from Faculty of Hygiene and Public Health, Univ. of São Paulo. *Place of Study:* U.S.A., 1952–.

GUTFREUND, HERBERT (*England*) *b. 1921.* Ph.D., Univ. of Cambridge 1947. Biochemistry (NS). Appointed from Univ. of Cambridge. *Place of Study:* U.S.A., 1952.

HADORN, ERNST (*Switzerland*) *b. 1902.* Ph.D., Univ. of Bern 1931. Biology (NS). Appointed from 1) Univ. of Bern; 2) Univ. of Zurich. *Place of Study:* U.S.A., 1936–37; 1951.

HALLGRIMSSON, SNORRI (*Iceland*) *b. 1912.* M.D., Karolinska Inst., Stockholm, 1943. Surgery (DMPH). Appointed from State Hosp., Reykjavik. *Place of Study:* U.S.A., 1951–52.

HARGREAVES, ALBERTO BARBOSA (*Brazil*) *b. 1916.* M.D., National Faculty of Med., Rio de Janeiro, 1938. Biochemistry (NS). Appointed from National Faculty of Med. *Place of Study:* U.S.A., 1951–52.

HARVEY, BRYAN HUGH (*England*) *b. 1914.* M.A., Univ. of Oxford 1945. Industrial Hygiene

(DMPH). Appointed from Ministry of Labor and National Service, Manchester. *Place of Study:* U.S.A., 1952–.

HAVINGA, EGBERTUS (*Netherlands*) *b. 1909.* Ph.D., Univ. of Utrecht 1939. Biochemistry (NS). Appointed from Univ. of Leiden. *Place of Study:* U.S.A., 1951–52.

HAYNES, WILLIAM S. (*U.S.A.*) *b. 1925.* M.D., Univ. of Michigan 1949. Industrial Hygiene (DMPH). Appointed from Blodgett Memorial Hosp., Grand Rapids, Mich. *Place of Study:* U.S.A., 1951–52.

HEYD, URIEL (*Israel*) *b. 1913.* Ph.D., Hebrew Univ., Jerusalem, 1948. Near Eastern Studies (DH). Appointed from Hebrew Univ. *Place of Study:* Turkey, 1951–52.

HILD, WALTHER (*Germany*) *b. 1919.* M.D., Univ. of Kiel 1949. Anatomy (DMPH). Appointed from Univ. of Kiel. *Place of Study:* U.S.A., 1952–.

HIPOLITO, OSMANE (*Brazil*) *b. 1920.* D.V.M., Superior School of Vet. Sci., Belo Horizonte, 1939. Agriculture (DNSA). Appointed from Superior School of Vet. Sci. *Place of Study:* U.S.A., 1952–.

HIRAI, NAOFUSA (*Japan*) *b. 1915.* B.A., Kokugakuin Univ., Tokyo, 1947. Religion (DH). Appointed from Kokugakuin Univ. *Place of Study:* U.S.A., 1951–.

HIRAYAMA, TAKESHI (*Japan*) *b. 1923.* M.D., Manchuria Med. Coll. 1947. Public Health Administration (IHD). Appointed from Inst. of Public Health, Tokyo. *Place of Study:* U.S.A., 1951–52.

HOCKING, DOUGLAS MITCHELL (*Australia*) *b. 1919.* M.A., Univ. of Melbourne 1950. Economics (DSS). Appointed from Univ. of Melbourne. *Place of Study:* U.S.A., England, 1951–52.

HOLM, JOHANNES HERMAN (*Denmark*) *b. 1902.* M.D., Univ. of Copenhagen 1935. Public Health Administration (DMPH). Appointed from Internat. Tuberculosis Campaign, Copenhagen. *Place of Study:* U.S.A., 1951–52.

HOSOYA, EIKICHI (*Japan*) *b. 1910.* D.M.Sc., Keio Univ., Tokyo, 1951. Pharmacology (DMPH). Appointed from Keio Univ. *Place of Study:* U.S.A., 1952–.

HOTCHIN, JOHN ELTON (*England*) *b. 1921.* M.B.B.S., Univ. of London 1944. Virology (BMRC). Appointed from National Inst. for Med. Research, London. *Place of Study:* U.S.A., 1952–.

HOUSSAY, HECTOR EMILIO JOSÉ (*Argentina*) *b. 1923.* M.D., Univ. of Buenos Aires 1945. Medicine (MS). Appointed from Center of Cardiol. Investigations, Buenos Aires. *Place of Study:* U.S.A., 1951–52.

HUCKER, CHARLES OSCAR (*U.S.A.*) *b. 1919.* Ph.D., Univ. of Chicago 1950. Far Eastern Studies (DH). Appointed from Univ. of Chicago. *Place of Study:* Taiwan, 1952–.

HULTIN, HOLGER LENNART (*Finland*) *b. 1918.* M.D., D.Chir., Univ. of Helsinki 1950. Public Health Administration (DMPH). Appointed from Univ.

Children's Clinic, Helsinki, and Uusimaa Province Public Health Teaching Area. *Place of Study:* U.S.A., 1952–.

HUNT, JACK NAYLOR (*England*) *b. 1917*. M.B.B.S., Univ. of London 1945; Ph.D., 1949. Physiology (BMRC). Appointed from Guy's Hosp. School of Med., London. *Place of Study:* U.S.A., 1951–52.

HUSAIN, EHTESHAM (*India*) *b. 1912*. LL.B., Univ. of Allahabad 1937. Criticism (DH). Appointed from Lucknow Univ. *Place of Study:* U.S.A., Europe, India, 1952–.

ICHIMURA, SHINICHI (*Japan*) *b. 1925*. M.A., Kyoto Univ. 1949. Economics (DSS). Appointed from Wakayama Univ. *Place of Study:* U.S.A., 1951–52.

ISAAC, PETER CHARLES GERALD (*England*) *b. 1921*. B.Sc., Northampton Polytech., London, 1942. Sanitary Engineering (IHD). Appointed from Univ. of Durham, Newcastle-upon-Tyne. *Place of Study:* U.S.A., 1951–52.

ISACHSEN, FRIDTJOV (*Norway*) *b. 1906*. M.A., Univ. of Oslo 1929. Geography (DSS). Appointed twice from Univ. of Oslo. *Place of Study:* U.S.A., 1947–48; U.S.A., Canada, 1952.

ISMAIL, USMAR (*Indonesia*) *b. 1921*. Dipl., Coll. of Art and Western Lit., Indonesia, 1941. Drama (DH). Appointed from Indonesian National Film Co., Ltd., Djakarta. *Place of Study:* U.S.A., Europe, Egypt, Asia, 1951–52.

IWAI, SHIGEHISA (*Japan*) *b. 1916*. Dr.Eng., Kyoto Univ. 1949. Sanitary Engineering (IHD). Appointed from Kyoto Univ. *Place of Study:* U.S.A., 1951–52.

JAASKELAINEN, TIMO VELI (*Finland*) *b. 1916*. M.D., Univ. of Helsinki 1943. Public Health Administration (IHD). Appointed from Finland War Dept. Fellowship to Univ. of North Carolina. *Place of Study:* U.S.A., 1951.

JABRA, JABRA IBRAHIM (*Iraq*) *b. 1919*. M.A., Univ. of Cambridge 1948. Criticism (DH). Appointed from Queen Aliya Coll., Baghdad. *Place of Study:* U.S.A., 1952–.

JANSON, KARIN (*Sweden*) *b. 1914*. Cert., Course for Nursing School Teachers, State School of Public Health Nursing, Stockholm, 1949. Nursing Education (DMPH). Appointed from St. Erik Nursing School, Stockholm. *Place of Study:* U.S.A., 1952–.

JENSEN, ARNE (*Denmark*) *b. 1920*. Actuary, Univ. of Copenhagen 1944. Economics (DSS). Appointed from Univ. of Copenhagen. *Place of Study:* England, Sweden, France, 1952–53.

JOB, CARL E. (*Austria*) *b. 1920*. M.D., Univ. of Vienna 1943. Physiology (MS). Appointed from Univ. of Innsbruck. *Place of Study:* Sweden, 1951–52.

JOLY, AYLTHON BRANDÃO (*Brazil*) *b. 1924*. Ph.D., Univ. of São Paulo 1950. Botany (NS). Appointed from Univ. of São Paulo. *Place of Study:* U.S.A., 1951–52.

JOYNER, JOSEPH WILLIAM (*U.S.A.*) *b. 1925.* M.S., Meharry Med. Coll. 1951. Virology (DMPH). Appointed from Meharry Med. Coll. *Place of Study:* U.S.A., 1952–.

JWAIDEH, ALBERTINE ELIAS (*Iraq*) *b. 1924.* M.A., American Univ. of Beirut 1948. History (DH). Appointed from Queen Aliya Coll., Baghdad. *Place of Study:* England, Iraq, 1951–.

KADISH, MORTIMER RAYMOND (*U.S.A.*) *b. 1916.* Ph.D., Columbia Univ. 1950. Philosophy (DH). Appointed from Western Reserve Univ. *Place of Study:* U.S.A., 1951.

KARLBERG, JONAS PETTER ERIK (*Sweden*) *b. 1919.* Med.Lic., Karolinska Inst., Stockholm, 1945. Pediatrics (DMPH). Appointed from Karolinska Inst. *Place of Study:* U.S.A., 1952–.

KARMAKAR, GANESH (*India*) *b. 1917.* M.Sc., Univ. of Calcutta 1938. Nutrition (DMPH). Appointed from All-India Inst. of Hygiene and Public Health, Calcutta. *Place of Study:* U.S.A., 1952–.

KARVINEN, ESKO (*Finland*) *b. 1922.* M.D., Univ. of Helsinki 1952. Physiology (DMPH). Appointed from Inst. of Physiol., Helsinki. *Place of Study:* U.S.A., 1952–.

KATO, RYOTARO (*Japan*) *b. 1904.* M.A., Univ. of Michigan 1938. Criticism (DH). Appointed from Nagoya Univ. *Place of Study:* U.S.A., 1952–.

KATSUNUMA, HARUO (*Japan*) *b. 1916.* D.M.Sc., Tokyo Univ. 1950. Industrial Hygiene (DMPH). Appointed from Tokyo Univ. *Place of Study:* U.S.A., 1952–.

KATZ, RICARDO (*Chile*) *b. 1924.* M.D., Univ. of Chile, Santiago, 1949. Medicine (DMPH). Appointed from Salvador Hosp., Santiago. *Place of Study:* U.S.A., 1952–.

KAYMAKCALAN, SUKRU (*Turkey*) *b. 1923.* M.D., Univ. of Istanbul 1946. Pharmacology (DMPH). Appointed from Central Inst. of Hygiene, Ankara. *Place of Study:* U.S.A., 1952–.

KEATON, ALICE GLENN (*U.S.A.*) *b. 1908.* M.S., Univ. of Tennessee 1946. Nutrition (DMPH). Appointed from Mississippi State Board of Health, Jackson. *Place of Study:* U.S.A., 1951–52.

KELLENBENZ, HERMANN (*Germany*) *b. 1913.* Ph.D., Univ. of Kiel 1938. Economic History (DSS). Appointed from Univ. of Würzburg. *Place of Study:* U.S.A., France, 1952–53.

KENNEDY, GORDON CHESTER (*England*) *b. 1916.* M.B.B.S., Univ. of London 1942. Endocrinology (BMRC). Appointed from National Inst. for Med. Research, London. *Place of Study:* U.S.A., 1951–52.

KERR, WARWICK ESTEVAM (*Brazil*) *b. 1922.* Dr. of Agron., Luiz de Queiroz School of Agric., Piracicaba, 1948. Agriculture (NS). Appointed from Luiz de Queiroz School of Agric. *Place of Study:* U.S.A., Venezuela, 1951–52.

KHOURI, MOUNAH ABDALLAH (*Lebanon*) *b. 1918.* B.A., American Univ. of Beirut 1952. Criticism (DH). Appointed from American Univ. of Beirut. *Place of Study:* U.S.A., 1952–.

KIMURA, NOBORU (*Japan*) *b. 1912.* M.D., Kyushu Univ., Fukuoka, 1936. Medicine (DMPH). Appointed from Kyushu Univ. *Place of Study:* U.S.A., 1951–52.

KISHORE, NAWAL (*India*) *b. 1922.* M.S., Agra Univ. 1948. Obstetrics (DMPH). Appointed from Med. Coll., Agra. *Place of Study:* U.S.A., 1952–.

KITAGAWA, Hidenori (*Japan*) *b. 1921.* M.A., Tohoku Univ., Sendai, 1948. Philosophy (DH). Appointed from Yale Univ. *Place of Study:* U.S.A., Europe, South Asia, 1952–.

KLIMT, CHRISTIAN ROBERT (*World Health Organization*) *b. 1918.* M.D., Univ. of Vienna 1944. Public Health Administration (DMPH). Appointed from World Health Organization. *Place of Study:* U.S.A., 1951–52.

KLÖNE, WILHELM (*Germany*) *b. 1914.* M.D., Univ. of Hamburg 1940. Virology (DMPH). Appointed from Univ. of Hamburg. *Place of Study:* U.S.A., 1952–.

KONO, REISAKU (*Japan*) *b. 1915.* D.M.Sc., Tokyo Univ. 1951. Virology (DMPH). Appointed from Inst. of Public Health, Tokyo. *Place of Study:* U.S.A., 1952–.

KOREY, SAUL ROY (*U.S.A.*) *b. 1918.* M.D., Univ. of Western Ontario, London, Canada, 1941. Biochemistry (NS). Appointed from Columbia Univ. *Place of Study:* U.S.A., 1951–52.

KRISHNA-RAO, HASARAGHATTA (*India*) *b. 1914.* M.B.B.S., All-India Inst. of Hygiene and Public Health, Calcutta, 1949. Public Health Administration (DMPH). Appointed from Corp. of the City of Bangalore. *Place of Study:* U.S.A., 1952–.

KRISHNASWAMY RAO, SUBBA RAO (*India*) *b. 1916.* M.B.B.S., Univ. of Mysore Med. School 1940; D.P.H., All-India Inst. of Hygiene and Public Health, Calcutta, 1948. Public Health Administration (IHD). Appointed from Health Training Center, Ramanagaram, Mysore State. *Place of Study:* U.S.A., 1951–52.

KRISTENSSON, FOLKE (*Sweden*) *b. 1914.* Lic., School of Econ., Stockholm, 1946. Economics (DSS). Appointed from School of Econ. *Place of Study:* U.S.A., 1951.

KROEBER, URSULA CLEMENTINE (*Germany*) *b. 1918.* Red Cross Motherhouse School of Nursing, Stettin, 1936–38. Nursing Education (DMPH). Appointed from Univ. of Heidelberg. *Place of Study:* Canada, 1952–.

KUBOTA, KINUKO (*Japan*) *b. 1913.* Hogakushi, Tokyo Univ. 1949. Political Science (DSS). Appointed from Japan Women's Univ., Tokyo. *Place of Study:* U.S.A., 1952–.

KUMAR, SHARAD (*India*) *b. 1923.* M.B.B.S., King George's Med. Coll., Lucknow, 1949. Pathology (DMPH). Appointed from

Lucknow Univ. *Place of Study:* U.S.A., 1952–.

KÜPPER, ALFREDO (*Brazil*) *b. 1917.* Agron.Eng., Luiz de Queiroz School of Agric., Piracicaba, 1937. Agriculture (DNSA). Appointed from Inst. of Agron., Campinas. *Place of Study:* U.S.A., 1952–.

KURUVILLA, ALEYAMMA (*India*) *b. 1922.* Certified Registration and R.N., Christian Med. Coll., Vellore, 1948. Public Health Nursing (DMPH). Appointed from Christian Med. Coll. *Place of Study:* U.S.A., 1952–.

KUSAKAWA, AKIRA (*Japan*) *b. 1925.* M.D., Kyushu Univ., Fukuoka, 1948. Hygiene and Preventive Medicine (DMPH). Appointed from Kyushu Univ. *Place of Study:* U.S.A., 1952–.

LABRA-PÉREZ, PATRICIO (*Chile*) *b. 1924.* Catholic Univ. of Chile, Santiago, 1943–49. Sanitary Engineering (DMPH). Appointed from Eng. Dept., Dept. of Health, Valparaíso. *Place of Study:* U.S.A., 1951–52.

LAGARIE, GERD W. (*Germany*) *b. 1916.* M.D., Würzburg Pathological Inst. 1945. Public Health Administration (DMPH). Appointed from Landesuntersuchungsamt Nordrhein, Düsseldorf. *Place of Study:* U.S.A., 1952–.

LAMB, MARGARET CURRIE NEILSON (*Scotland*) *b. 1906.* Reg. General Nurse, State Certified Midwife, Royal Infirmary, Dundee, 1931–36. Nursing Education (IHD). Appointed from Royal Coll. of Nursing, Edinburgh. *Place of Study:* Canada, U.S.A., 1951–52.

LANGER, DENYSE (*Switzerland*) *b. 1918.* Infirmière Dipl., Le Bon Secours School of Nursing, Geneva, 1945. Public Health Nursing (IHD). Appointed from Le Bon Secours School of Nursing. *Place of Study:* U.S.A., 1951–52.

LARSEN, SVENN LAURITZ (*Norway*) *b. 1914.* Degree, Norwegian Inst. of Tech., Trondheim, 1940. Sanitary Engineering (IHD). Appointed from Norwegian State Labor Inspectorate, Trondheim. *Place of Study:* U.S.A., 1951–52.

LAYTON, BASIL DOUGLAS BAILEY (*Canada*) *b. 1907.* M.D., Univ. of Toronto 1931. Public Health Administration (DMPH). Appointed from Dept. of National Health and Welfare, Ottawa. *Place of Study:* U.S.A., 1951–52.

LEFORT, ROBERT (*France*) *b. 1923.* M.D., Univ. of Paris 1950. Psychiatry (DMPH). Appointed from Fondation Parent de Rosan, Paris. *Place of Study:* U.S.A., 1952–.

LEITE-RIBEIRO, MARIA OFELIA DA VEIGA MALTA EMAUZ (*Portugal*) *b. 1928.* Dipl., Professional School of Nursing, Lisbon, 1950. Nursing Education (IHD). Appointed from Professional School of Nursing, Portuguese Oncological Inst., Lisbon. *Place of Study:* Canada, U.S.A., 1951–52.

LÉVY, MAURICE (*France*) *b. 1920.* Agrégé, Univ. of Paris 1946. Economic History (DSS). Appointed from Inst. of Polit.

Studies, Paris. *Place of Study:* U.S.A., 1952–53.

LIEFMANN-KEIL, ELISABETH (*Germany*) *b. 1908.* Dr.rer.pol., Univ. of Freiburg 1935. Economics (DSS). Appointed from Univ. of Freiburg. *Place of Study:* U.S.A., Sweden, 1952–53.

LIMA, LUCIO PENNA DE CARVALHO (*Brazil*) *b. 1920.* M.D., Univ. of São Paulo 1943. Microbiology (DMPH). Appointed from Univ. of São Paulo. *Place of Study:* U.S.A., 1952–.

LINDGREN, INGA E. I. (*Sweden*) *b. 1917.* M.D., Univ. of Stockholm 1950. Physiology (MS). Appointed from St. Erik's Hosp., Stockholm. *Place of Study:* U.S.A., England, 1951–53.

LIPTON, ESTHER ELIZABETH (*U.S.A.*) *b. 1908.* B.S. in Public Health Nursing, Columbia Univ. 1945. Public Health Administration (DMPH). Appointed from New York Hosp.-Cornell Univ. School of Nursing. *Place of Study:* U.S.A., 1951–52.

LORENTZ DE HAAS, ALBERT MARIE (*Netherlands*) *b. 1911.* M.D., Univ. of Amsterdam 1943. Medicine (DMPH). Appointed from Univ. of Amsterdam. *Place of Study:* U.S.A., Canada, 1951–52.

LOVE, BEN DEL (*U.S.A.*) *b. 1918.* M.D., Meharry Med. Coll. 1950. Medicine (DMPH). Appointed from Meharry Med. Coll. *Place of Study:* U.S.A., 1952–.

LUSCHER, MARTIN (*Switzerland*) *b. 1917.* Venia docendi, Univ. of Basel 1948. Biology (NS). Appointed from Swiss Trop. Inst., Basel, and Univ. of Basel. *Place of Study:* U.S.A., 1951–52.

MAALØE, OLE URBAN (*Denmark*) *b. 1914.* M.D., Univ. of Copenhagen 1939. Biochemistry (NS). Appointed from State Serum Inst., Copenhagen. *Place of Study:* U.S.A., 1951–52.

MCCARUS, ERNEST NASSEPH (*U.S.A.*) *b. 1922.* M.A., Univ. of Michigan 1949. Near Eastern Studies (DH). Appointed from Univ. of Michigan. *Place of Study:* Near East, 1951.

MCDONALD, EDWARD LAWSON (*England*) *b. 1918.* M.A., M.B.B.S., Univ. of Cambridge 1946. Medicine (BMRC). Appointed from Middlesex Hosp., London. *Place of Study:* U.S.A., 1952–.

MACKAY, DONALD MACCRIMMON (*England*) *b. 1922.* Ph.D., Univ. of London 1950. Biology (NS). Appointed from King's Coll., London. *Place of Study:* U.S.A., 1951.

MACMAHON, BRIAN (*England*) *b. 1923.* M.B., Ch.B., Univ. of Birmingham 1949. Public Health Administration (DMPH). Appointed from British Med. Research Council, Birmingham. *Place of Study:* U.S.A., 1952–.

MAKI, HELMI KYLLIKKI (*Finland*) *b. 1922.* Helsinki Coll. of Nursing 1945–48, 1950. Medical Social Work (DMPH). Appointed from Uusimaa Province Dept. of Public Health. *Place of Study:* U.S.A., 1952–.

MALAVOLTA, EURIPEDES (*Brazil*) *b. 1926.* Agron.Eng., Luiz de

Queiroz School of Agric., Piracicaba, 1948. Chemistry (DNSA). Appointed from Luiz de Queiroz School of Agric. *Place of Study:* U.S.A., 1952–53.

MANDELBAUM, ALLEN (*U.S.A.*) *b. 1926.* M.A., Columbia Univ. 1946. Criticism (DH). Appointed from American National Theatre and Acad., New York. *Place of Study:* U.S.A., 1951.

MANNI, TUULIKKI (*Finland*) *b. 1920.* Teacher Dipl., Univ. of Helsinki 1945. Nutrition (IHD). Appointed from Public Health Service, Helsinki. *Place of Study:* U.S.A., 1951–52.

MARAVALHAS, NELSON (*Brazil*) *b. 1912.* Dr.Agron., Paraná Higher School of Agron. and Vet. Sci., Curitiba, 1951. Agriculture (DNSA). Appointed from Inst. of Biol. and Tech. Research, Curitiba. *Place of Study:* U.S.A., 1952–.

MARMION, BARRIE PATRICK (*England*) *b. 1920.* M.D., Univ. of London and Univ. Coll. Hosp., London, 1947. Virology (BMRC). Appointed from Public Health Lab. Service, Colindale. *Place of Study:* Australia, 1951–52.

MATUMOTO, MINORU (*Japan*) *b. 1915.* D.M.Sc., Tokyo Univ. 1949. Virology (DMPH). Appointed from Tokyo Univ. *Place of Study:* U.S.A., 1951–.

MENDES, LUIZ OCTAVIO TEIXEIRA (*Brazil*) *b. 1908.* Agron.Eng., Luiz de Queiroz School of Agric., Piracicaba, 1930. Agriculture (NS). Appointed from Inst. of Agron., Campinas. *Place of Study:* U.S.A., Mexico, Peru, 1951–53.

MILINKOVIC, VINKO (*Yugoslavia*) *b. 1917.* Agron.Eng., Univ. of Zagreb 1946. Agriculture (DNSA). Appointed from Inst. for Plant Breeding and Genet., Zagreb. *Place of Study:* Sweden, 1952–.

MIRANDA, MARÍA TERESA FERNÁNDEZ DE (*Mexico*) *b. 1924.* M.Anthrop.Sci., National School of Anthrop. and Hist., Mexico, D. F., 1950. Language, Logic, and Symbolism (DH). Appointed from Museum of Anthrop., Mexico, D. F. *Place of Study:* Mexico, U.S.A., 1952–53.

MIRZA, ARSHAD MUKHTAR (*Pakistan*) *b. 1923.* M.A., Univ. of Delhi 1946. Mass Media (DH). Appointed from Govt. of Panjab. *Place of Study:* Canada, 1951–52. *Deceased (1952).*

MITCHELL, ROSS GALBRAITH (*Scotland*) *b. 1920.* D.Ch., Univ. of London 1948. Pharmacology (BMRC). Appointed from Univ. of St. Andrews, Dundee. *Place of Study:* U.S.A., 1952–.

MIURA, SADA (*Japan*) *b. 1912.* R.N., St. Luke's Internat. Hosp. School of Nursing, Tokyo, 1931. Public Health Nursing (IHD). Appointed from 1) Dept. of Public Health, Hayama; 2) Inst. of Public Health, Tokyo. *Place of Study:* U.S.A., 1934–35; 1951–52.

MIURA, YOSHIAKI (*Japan*) *b. 1915.* D.M.Sc., Tokyo Univ. 1951. Chemistry (DMPH). Appointed from Tokyo Univ. *Place of Study:* U.S.A., 1952–.

MIYASAKA, TADAO (*Japan*) *b. 1922.* M.D., Tokyo Univ. 1946. Public Health Administration (DMPH). Appointed from Ministry of Health and Welfare, Tokyo. *Place of Study:* U.S.A., 1952–.

MOHRDIECK, KARL HEINZ (*Brazil*) *b. 1924.* Agron.Eng., School of Agron. and Vet. Sci., Pôrto Alegre, 1948. Agriculture (NS). Appointed from Secretariat of Agric., Pôrto Alegre. *Place of Study:* U.S.A., Mexico, 1951–52.

MOÏSE, ANDRÉ (*Haiti*) *b. 1918.* M.D., School of Med., Port-au-Prince, 1944. Anatomy (DMPH). Appointed from School of Med., Port-au-Prince. *Place of Study:* U.S.A., Canada, 1951–52.

MONIZ PEREIRA, MARIA JOSÉ GOMES (*Portugal*) *b. 1923.* Dipl., Professional School of Nursing, Lisbon, 1948. Nursing Education (DMPH). Appointed from Portuguese Oncological Inst., Lisbon. *Place of Study:* U.S.A., Canada, 1952–.

MORA, GIORGIO (*Italy*) *b. 1923.* M.D., Univ. of Genoa 1947. Psychiatry (MS). Appointed from Univ. of Genoa. *Place of Study:* U.S.A., 1951–52.

MORO, MANUEL (*Peru*) *b. 1927.* D.V.M., Univ. of San Marcos, Lima, 1950. Veterinary Medicine (DNSA). Appointed from Univ. of San Marcos. *Place of Study:* U.S.A., 1952–.

MORTHEIRU SALGADO, PEDRO (*Chile*) *b. 1919.* Catholic Univ. of Chile, Santiago, 1946. Drama (DH). Appointed from Catholic Univ. of Chile. *Place of Study:* U.S.A., 1951–52.

MOSES, SATYA-DAS HENRY (*India*) *b. 1912.* B.S.Sc., Madras Med. Coll. 1940. Public Health Administration (DMPH). Appointed from World Health Organization Malaria Control Demonstration Team, Nilambur, Madras State. *Place of Study:* U.S.A., 1951–52.

MOULA, ABDEL HADI MAHMOUD HASSAN EL (*Egypt*) *b. 1925.* B.Sc., Fouad I Univ., Cairo, 1949. Public Health Laboratory (IHD). Appointed from Ministry of Public Health, Cairo. *Place of Study:* U.S.A., 1951–52.

MOURA, AMILCAR COSTA DA CRUZ (*Portugal*) *b. 1917.* M.D., Univ. of Lisbon 1940. Psychiatry (DMPH). Appointed from Univ. of Lisbon. *Place of Study:* U.S.A., 1952–.

MURATA, RYOSUKE (*Japan*) *b. 1915.* D.M.Sc., Tokyo Univ. 1950. Microbiology (DMPH). Appointed from National Inst. of Health, Tokyo. *Place of Study:* U.S.A., 1952–.

MURILLO, IRENE GUILLERMINA (*Ecuador*) *b. 1924.* National School of Nursing, Quito, 1946–49. Nursing Education (DMPH). Appointed from National School of Nursing. *Place of Study:* Canada, U.S.A., 1952–.

MYANT, NICOLAS BRUCE (*England*) *b. 1917.* M.D., Univ. Coll. Hosp., London, 1951. Medicine (BMRC). Appointed from Univ. Coll. Hosp. Med. School. *Place of Study:* U.S.A., 1952–.

MYKLEBOST, HALLSTEIN (*Norway*) *b. 1923.* Cand.Phil., Univ. of Oslo 1949. Economic Geogra-

phy (DSS). Appointed from Govt. Railroad Planning Commission. *Place of Study:* England, 1951–52.

NAIR, CHERUKAT PADMANABHAN (*India*) *b. 1913.* Dipl. in Med. and Surgery, Stanley Med. Coll., Madras, 1938. Public Health Administration (DMPH). Appointed from Malaria Inst. of India, Delhi. *Place of Study:* U.S.A., 1951–52.

NEALE, ROBERT GEORGE (*Australia*) *b. 1919.* B.A., Univ. of Melbourne 1939. International Relations (DSS). Appointed from Univ. of Queensland, Brisbane. *Place of Study:* England, U.S.A., 1951–52.

NIEUWKOOP, PIETER DIRK (*Netherlands*) *b. 1917.* Ph.D., Univ. of Utrecht 1946. Biology (NS). Appointed from Hubrecht Lab., Utrecht. *Place of Study:* U.S.A., 1951–52.

OCHOA, SEVERO (*U.S.A.*) *b. 1905.* M.D., Univ. of Madrid 1929. Biochemistry (DNSA). Appointed from New York Univ. Coll. of Med. *Place of Study:* Germany, 1952.

ODA, SHIGERU (*Japan*) *b. 1924.* Hogakushi, Law School of Tokyo Univ. 1947. Law (DSS). Appointed from Tohoku Univ., Sendai. *Place of Study:* U.S.A., 1951–52.

ODEBLAD, ERIK EMANUEL (*Sweden*) *b. 1922.* M.D., Karolinska Inst., Stockholm, 1952. Gynecology (DMPH). Appointed from Karolinska Inst. *Place of Study:* U.S.A., 1952–.

OHLIN, INGA BRITTA LINNEA (*Sweden*) *b. 1920.* Cert., State School of Public Health Nursing 1947. Public Health Nursing (IHD). Appointed from Stockholm County Council. *Place of Study:* U.S.A., 1951–52.

OLIVEIRA, WALDEMAR MIRANDA DE (*Brazil*) *b. 1915.* Agron., Univ. of Pôrto Alegre 1940. Agriculture (NS). Appointed from Animal Industry Station, Montenegro. *Place of Study:* U.S.A., Central and South America, 1951–52.

OUREN, TORE (*Norway*) *b. 1918.* M.A., Norwegian School of Bus., Econ., and Admin., Bergen, 1940. Geography (DSS). Appointed from Univ. of Oslo. *Place of Study:* U.S.A., Canada, 1951–52.

PADRON, CONSUELO (*Brazil*) *b. 1921.* B.S., Univ. of São Paulo 1946. Chemistry (MS). Appointed from Univ. of São Paulo. *Place of Study:* U.S.A., 1951–52.

PALADINI, ALEJANDRO CONSTANTINO (*Argentina*) *b. 1919.* Dr. of Biochem., Univ. of Buenos Aires 1946. Biochemistry (NS). Appointed from Inst. of Biochem. Research, Campomar Foundation, Buenos Aires. *Place of Study:* U.S.A., 1951–53.

PANNIER, MICHEL M. V. (*France*) *b. 1922.* B.A., Univ. of Grenoble 1942. Economics (DSS). Appointed from Inst. de Science Économique Appliquée, Paris. *Place of Study:* U.S.A., 1951–52.

PARIS, JEANNE-MARIE (*Switzerland*) *b. 1909*. La Source School of Nursing, Lausanne, 1931–33. Nursing Education and Administration (DMPH). Appointed from Univ. Clinic, Cantonal Hosp., Geneva. *Place of Study:* U.S.A., 1952–.

PAUR, ANNE-MARIE (*Switzerland*) *b. 1911*. Dipl., Le Bon Secours School of Nursing, Geneva, 1938. Nursing Education. (DMPH). Appointed from Le Bon Secours School of Nursing. *Place of Study:* U.S.A., 1952–.

PEACOCK, JOSEPH HENRY (*England*) *b. 1918*. M.B.B.S., Univ. of Birmingham 1941. Surgery (BMRC). Appointed from Univ. of Bristol. *Place of Study:* U.S.A., 1951–52.

PEACOCKE, ARTHUR ROBERT (*England*) *b. 1924*. Ph.D., Univ. of Oxford 1948. Biochemistry (NS). Appointed from Univ. of Birmingham. *Place of Study:* U.S.A., 1951–52.

PEDREIRA DE FREITAS, JOSÉ LIMA (*Brazil*) *b. 1917*. M.D., Univ. of São Paulo 1941. Pathology (DMPH). Appointed from Univ. of São Paulo. *Place of Study:* U.S.A., 1952–.

PEKKARINEN, AIMO ILMARI (*Finland*) *b. 1921*. M.D., Univ. of Helsinki 1950. Pharmacology (DMPH). Appointed from Univ. of Turku. *Place of Study:* U.S.A., 1952–.

PIMENTEL GOMES, FREDERICO (*Brazil*) *b. 1921*. Agron.Eng., Univ. of São Paulo 1943. Agriculture (DNSA). Appointed from Luiz de Queiroz School of Agric., Piracicaba. *Place of Study:* U.S.A., 1952–.

PITFIELD, JESSIE (*Ceylon*) *b. 1919*. Christian Med. Coll., Vellore, 1949–50. Nursing Education (IHD). Appointed from Nurses' Training School, Colombo. *Place of Study:* U.S.A., 1951–52.

PLAZA-MESA, VICTOR (*Chile*) *b. 1916*. B., Univ. of Concepción 1934–39. Industrial Hygiene (DMPH). Appointed from Dept. of Health, Santiago. *Place of Study:* U.S.A., 1951–52.

PODBIELSKI, GIZELLE (*Switzerland*) *b. 1915*. Lic., Sci.Econ., Univ. of Geneva 1937. Economics (DSS). Appointed from United Nations, Geneva. *Place of Study:* England, 1952–53.

POLK, WILLIAM ROE (*U.S.A.*) *b. 1929*. B.A., Harvard Univ. 1951. Near Eastern Studies (DH). Appointed from Harvard Univ. *Place of Study:* Near East, England, 1951–.

PRASAD, BRAHAM GOVIND (*India*) *b. 1915*. M.D., Lucknow Univ. 1948. Medical Care (DMPH). Appointed from Provincial Hygiene Inst., Lucknow, and Lucknow Univ. *Place of Study:* Scotland, 1952–.

PUTNAM, HILARY (*U.S.A.*) *b. 1926*. B.A., Univ. of Pennsylvania 1948. Language, Logic, and Symbolism (DH). Appointed from Univ. of California, Los Angeles. *Place of Study:* U.S.A., 1951–52.

RACHOU, RENÉ GUIMARAES (*Brazil*) *b. 1917*. M.D., Univ. of Brazil 1939. Public Health Administration (DMPH). Ap-

pointed from National Malaria Service, Rio de Janeiro. *Place of Study:* U.S.A., 1952.

RADNER, STIG OLOF (*Sweden*) *b. 1913.* M.D., Univ. of Lund 1941. Physiology (MS). Appointed from Med. Clinic, Lund. *Place of Study:* U.S.A., 1951–52.

RAHUL, RAM NARAYAN (*India*) *b. 1920.* M.A., St. Stephen's Coll., Delhi, 1943. Central Asian Studies (DH). Appointed from research and exploration in Central Asia. *Place of Study:* U.S.A., 1952–.

RAO, KRISHNARAU RAGANATHA (*India*) *b. 1920.* M.B.B.S., Andhra Univ., Waltair, 1948. Chemistry (DMPH). Appointed from Andhra Med. Coll., Vizagapatam. *Place of Study:* U.S.A., 1951–.

RAUTANEN, NIILO SAKARI (*Finland*) *b. 1916.* Ph.D., Univ. of Helsinki 1948. Biochemistry (NS). Appointed from Univ. of Helsinki and Wihuri Inst., Helsinki. *Place of Study:* U.S.A., 1951–52.

REAGA SANTOS, HERMANDO (*Colombia*) *b. 1916.* Agron.Eng., National Univ. of Colombia, Bogotá, 1940. Agriculture (NS). Appointed from Ministry of Agric., Bogotá. *Place of Study:* U.S.A., Mexico, 1951–52.

REED, HOWARD ALEXANDER (*Canada*) *b. 1920.* Ph.D., Princeton Univ. 1951. Near Eastern Studies (DH). Appointed from Yale Univ. *Place of Study:* Europe, Turkey, 1952.

REGALA, CRISANTA MONTEIRO (*Portugal*) *b. 1920.* Dipl., Professional School of Nursing, Lisbon, 1949. Nursing Education (DMPH). Appointed from Portuguese Oncological Inst., Lisbon. *Place of Study:* U.S.A., 1952–.

REICHARD, PETER ADOLF (*Sweden*) *b. 1925.* M.D., Karolinska Inst., Stockholm. Biochemistry (NS). Appointed from Karolinska Inst. *Place of Study:* U.S.A., 1951–52.

REUSE, JEAN JULES JOSEPH (*Belgium*) *b. 1919.* M.D., Univ. of Brussels 1944. Pharmacology (DMPH). Appointed from Univ. of Brussels. *Place of Study:* Italy, 1952.

REVERBERI, GIUSEPPE (*Italy*) *b. 1901.* Dr.rer.nat., Univ. of Rome 1928. Biology (DNSA). Appointed from Univ. of Palermo. *Place of Study:* U.S.A., 1952.

REYNELL, PETER CAREW (*England*) *b. 1917.* M.D., Univ. of Oxford 1951. Physiology (BMRC). Appointed from Nuffield Dept. of Clinical Med., Univ. of Oxford. *Place of Study:* U.S.A., 1952–.

RIBEIRO DE OLIVEIRA, MARIA IVETE (*Brazil*) *b. 1928.* Bahia Nursing School 1947–50. Nursing Education (DMPH). Appointed from Bahia Nursing School. *Place of Study:* U.S.A., 1952–.

RICKARDS, WINSTON SELBY (*Australia*) *b. 1920.* M.D., Univ. of Melbourne 1950. Psychiatry (DMPH). Appointed from Children's Hosp., Melbourne. *Place of Study:* U.S.A., 1951–.

RODRÍGUEZ, JULIAN ADALBERTO (*El Salvador*) *b. 1920.* M.D.,

National Univ. of El Salvador, San Salvador, 1948. Public Health Administration (IHD). Appointed from Malariology and Vectors Control Service, San Salvador. *Place of Study:* U.S.A., 1951–52.

ROJAS PENA, ENRIQUE DE (*Colombia*) *b. 1917.* Agron.Eng., National Univ. of Colombia, Bogotá, 1942. Agriculture (NS). Appointed from Ministry of Agric., Bogotá. *Place of Study:* Mexico, 1952.

RÖPER, BURKHARDT (*Germany*) *b. 1915.* Dr.rer.pol., Univ. of Hamburg 1946. Economics (DSS). Appointed from Univ. of Hamburg. *Place of Study:* U.S.A., 1952–53.

ROPER, JOSEPH ALAN (*Scotland*) *b. 1924.* Ph.D., Univ. of Sheffield 1949. Biology (DNSA). Appointed from Univ. of Glasgow. *Place of Study:* U.S.A., 1952–.

ROSENAUER, ADOLF (*Austria*) *b. 1922.* M.D., Faculty of Med., Innsbruck, 1947. Surgery (MS). Appointed from Univ. of Innsbruck. *Place of Study:* U.S.A., 1951–52.

ROSENMAYR, LEOPOLD (*Austria*) *b. 1925.* Ph.D., Univ. of Vienna 1949. Sociology (DSS). Appointed from Univ. of Vienna. *Place of Study:* U.S.A., 1951–52.

ROSSI, T. REINO K. (*Finland*) *b. 1919.* Ph.D., Univ. of Helsinki 1951. Economics (DSS). Appointed from Bank of Finland, Helsinki. *Place of Study:* England, U.S.A., 1952.

RUSSI, ANTONIO (*Italy*) *b. 1916.* D.Litt., Univ. of Pisa 1940. Literature (DH). Appointed twice from Univ. of Pisa. *Place of Study:* U.S.A., 1949–50; Italy, 1951–52.

SACHDEV, JAGDISH CHANDER (*India*) *b. 1918.* M.Sc., King Edward Med. Coll., Lahore, 1946. Physiology (DMPH). Appointed from Mahatma Gandhi Memorial Med. Coll., Indore. *Place of Study:* U.S.A., Canada, Europe, 1952–53.

SAEZ, FRANCISCO ALBERTO (*Uruguay*) *b. 1898.* Degree in Biol. Sci., National Univ. of La Plata, Argentina, 1928. Biology (NS). Appointed from Inst. of Biol. Sci., Montevideo. *Place of Study:* U.S.A., Sweden, 1951–53.

SAITO, MAKOTO (*Japan*) *b. 1921.* Hogakushi, Tokyo Univ. 1942. American Studies (DH). Appointed from Tokyo Univ. *Place of Study:* U.S.A., 1951–53.

SANSON, YOLANDA (*Brazil*) *b. 1912.* Nursing Dipl., São Paulo School of Nursing 1948. Public Health Nursing (DMPH). Appointed from Special Health Service in Araraquara. *Place of Study:* U.S.A., Canada, 1951–52.

SAUGSTAD, PER (*Norway*) *b. 1921.* Cand.Phil., Univ. of Oslo 1945. Social Psychology (DSS). Appointed from Univ. of Oslo. *Place of Study:* U.S.A., 1951–52.

SAYIGH, TAWFIQ ABDULLAH (*Lebanon*) *b. 1923.* B.A., American Univ. of Beirut 1945. Criticism (DH). Appointed from U.S. Information Service, Beirut. *Place of Study:* U.S.A., 1952–53.

SCHAEFFER, PIERRE ALFRED GASTON (*France*) *b. 1917*. M.D., Univ. of Paris 1945. Physiology (NS). Appointed from Pasteur Inst., Paris. *Place of Study:* U.S.A., 1951–52.

SEIP, HELGE LUNDE (*Norway*) *b. 1919*. Degrees in Econ. and Law, Univ. of Oslo 1941. Economics (DSS). Appointed from Univ. of Oslo. *Place of Study:* England, U.S.A., 1951–52.

SELMER, ERNST SEJERSTED (*Norway*) *b. 1920*. Cand.real., Univ. of Oslo 1945. Mathematics (DSS). Appointed from Univ. of Oslo. *Place of Study:* U.S.A., 1951–52.

SENF, PAUL (*Germany*) *b. 1915*. Dr.rer.pol., Univ. of Frankfurt 1949. Economics (DSS). Appointed from Univ. of Frankfurt. *Place of Study:* France, England, 1951.

SEVALDSON, PER (*Norway*) *b. 1922*. Cand.Econ., Univ. of Oslo 1949. Economics (DSS). Appointed from Central Bureau of Statistics, Oslo. *Place of Study:* U.S.A., 1951–52.

SHAHI, UPENDRA NARAIN (*India*) *b. 1921*. M.S., Patna Med. Coll. Hosp. 1950. Surgery (MS). Appointed from Prince of Wales Med. Coll., Patna. *Place of Study:* England, 1951–52.

SHEHADI, FADLOU ALBERT (*Lebanon*) *b. 1926*. B.A., American Univ. of Beirut 1948. Religion (DH). Appointed from Princeton Univ. *Place of Study:* Canada, U.S.A., 1951–52.

SHROFF, ATULA NARSIDAS (*India*) *b. 1926*. Dipl., Washington Univ. School of Nursing, St. Louis, 1950. Pediatric Nursing (IHD). Appointed from Teachers Coll., Columbia Univ. *Place of Study:* U.S.A., 1951.

SIASKAS, JOHN (*Greece*) *b. 1917*. National Univ. of Athens 1942–50. Mass Media (DH). Appointed from National Broadcasting Inst. of Greece, Athens. *Place of Study:* U.S.A., Canada, Europe, 1951–52.

SILVANY FILHO, ANNIBAL MUNIZ (*Brazil*) *b. 1924*. M.D., Univ. of Bahia 1948. Pathology (DMPH). Appointed from Public Health Inst., Salvador, Bahia. *Place of Study:* U.S.A., 1952–.

SINGH, RATNA PRAKASH (*India*) *b. 1922*. M.S., Agra Univ. 1948. Anatomy (MS). Appointed from Mahatma Gandhi Memorial Med. Coll., Indore. *Place of Study:* U.S.A., 1951–52.

SKÅRDAL, OLAV (*Norway*) *b. 1919*. M.A., Univ. of Oslo 1951. Social Psychology (DSS). Appointed from Univ. of Oslo. *Place of Study:* U.S.A., 1952–53.

ŠKERLJ, BOŽO (*Yugoslavia*) *b. 1904*. Dr.rer.nat., Charles Univ. of Prague 1927. Anthropology (DSS). Appointed from 1) Inst. of Hygiene, Ljubljana; 2) Univ. of Ljubljana. *Place of Study:* Germany, 1931–32; U.S.A., 1952–53.

SMIDT, KRISTIAN (*Norway*) *b. 1916*. Ph.D., Univ. of Oslo 1949. Criticism (DH). Appointed from Univ. of Oslo. *Place of Study:* U.S.A., 1951–52.

SMITH, GUDMUND JOHN WILHELM (*Sweden*) *b. 1920*. Ph.D., Univ.

of Lund 1949. Psychology (DMPH). Appointed from Univ. of Lund. *Place of Study:* U.S.A., 1952–53.

SOSA SANDOVAL, OSCAR NERY (*Guatemala*) *b. 1930.* Perito Agrónomo, National Agric. School 1948. Agriculture (NS). Appointed from Inst. Agropecuario Nacional "La Aurora," Guatemala City. *Place of Study:* U.S.A., 1951–.

SOVANI, NILKANTH VILHAL (*India*) *b. 1917.* M.A., Univ. of Bombay 1940. Economics (DSS). Appointed from Gokhale Inst. of Polit. and Econ., Poona. *Place of Study:* U.S.A., 1951–52.

SPILLING, RAGNHILD (*Norway*) *b. 1904.* State School of Public Health Nursing 1947–48. Public Health Nursing (IHD). Appointed from Bergen, Norway. *Place of Study:* U.S.A., Canada, 1951–52.

SREENIVASAN, ARUNACHALA (*India*) *b. 1909.* D.Sc., Indian Inst. of Sci., Bangalore, 1936. Biochemistry (DNSA). Appointed from Univ. of Bombay. *Place of Study:* U.S.A., 1952–53.

STANBURY, SYDNEY WILLIAM (*England*) *b. 1919.* M.B.B.S., Univ. of Manchester 1942. Medicine (BMRC). Appointed from Univ. of Manchester. *Place of Study:* U.S.A., 1951–52.

STEN-KNUDSEN, OVE (*Denmark*) *b. 1919.* M.D., Univ. of Copenhagen 1945. Biophysics (DNSA). Appointed from Univ. of Copenhagen. *Place of Study:* U.S.A., 1952–.

STERN, CURT (*Germany; U.S.A.*) *b. 1902.* Ph.D., Univ. of Berlin 1923. Biology (IEB;NS). Appointed from 1) Kaiser Wilhelm Inst., Berlin; 2) Univ. of Berlin; 3) Univ. of California. *Place of Study:* U.S.A., 1924–26; 1932–33; Europe, 1951–52.

STEUART, GUY WALTER (*Union of South Africa*) *b. 1918.* M.Ed., Univ. of South Africa 1950. Psychology (DMPH). Appointed from Inst. of Family and Community Health, Durban. *Place of Study:* U.S.A., 1952–.

STIEF, CARL (*Denmark*) *b. 1914.* M.A., Univ. of Copenhagen 1941. Slavic Studies (DH). Appointed twice from Univ. of Copenhagen. *Place of Study:* England, France, 1947–48; U.S.A., 1951.

STORER, THOMAS FREDERICK (*U.S.A.*) *b. 1918.* Ph.D., State Univ. of Iowa 1947. Philosophy (DH). Appointed from Univ. of Nebraska. *Place of Study:* Hawaii, U.S.A., 1951–52.

STREETEN, DAVID H. P. (*Union of South Africa*) *b. 1921.* Royal Coll. of Physicians, London, 1948. Endocrinology (MS). Appointed from Univ. of Oxford. *Place of Study:* U.S.A., 1951–52.

SUBRAHMANYAM, DHARMAVADANI VISWANATHAN (*India*) *b. 1927.* B.E. (Civil), Eng. Coll., Poona, 1949. Sanitary Engineering (DMPH). Appointed from Faitarna-cum-Tansu Water Supply Scheme, Bombay Municipality. *Place of Study:* U.S.A., 1952–.

SUKUMARAN, MADHAVA PANICKER (*India*) *b. 1920.* M.B.B.S., Madras Med. Coll. 1949. Chemistry (DMPH). Appointed from Travancore-Cochin State, Trivandrum. *Place of Study:* U.S.A., 1952–.

SUNDARASIVARAO, DIGUMARTHI (*India*) *b. 1918.* M.B.B.S., Andhra Med. Coll., Vizagapatam, 1941. Pathology (DMPH). Appointed from Stanley Med. Coll., Madras. *Place of Study:* England, 1951–52.

SUNDER RAO, ARCOT RAMASWAMY (*India*) *b. 1915.* M.B.B.S., Univ. of Mysore Med. Coll. 1940; D.P.H., All-India Inst. of Hygiene and Public Health, Calcutta, 1944. Public Health Administration (IHD). Appointed from Public Health Inst., Bangalore. *Place of Study:* U.S.A., 1951–52.

SUWA, NOZOMI (*Japan*) *b. 1912.* M.D., Tokyo Univ. 1938; Dr. Med.Sc., 1947. Psychiatry (DMPH). Appointed from Hokkaido Univ., Sapporo. *Place of Study:* U.S.A., 1951–52.

SYMONDS, NEVILLE DAVID (*England*) *b. 1924.* Ph.D., Univ. of London 1948. Biology (NS). Appointed from Univ. of Chicago. *Place of Study:* U.S.A., 1951–.

TABARELLI NETO, JOSÉ DE FATIS (*Brazil*) *b. 1913.* D.V.M., Univ. of São Paulo 1935. Veterinary Medicine (NS). Appointed from Univ. of São Paulo. *Place of Study:* U.S.A., Canada, 1951–52.

TARIN, SALMA (*Pakistan*) *b. 1918.* Sister Tutor's Cert., Coll. of Nursing, Delhi, 1946. Nursing Administration (DMPH). Appointed from Mayo Hosp., Lahore. *Place of Study:* U.S.A., Canada, 1952.

TASHJIAN, ANGEL (*Lebanon*) *b. 1926.* Dipl., American Univ. of Beirut School of Nursing 1945. Nursing Education (DMPH). Appointed from American Univ. Hosp., Beirut. *Place of Study:* U.S.A., 1952–.

TATAI, KICHINOSUKE (*Japan*) *b. 1914.* M.D., Tokyo Univ. 1940; Dr.Med.Sci., Inst. of Public Health, Tokyo, 1949. Public Health Administration (IHD). Appointed from Inst. of Public Health. *Place of Study:* U.S.A., 1951–52.

TAYLOR, JEAN (*New Zealand*) *b. 1915.* Dipl. in Hosp. and Nursing School Admin., Postgrad. School, Wellington, 1948. Nursing Education (IHD). Appointed from Florence Nightingale Internat. Foundation Scholarship at Univ. of Toronto; on leave of absence from Christchurch Hosp., New Zealand. *Place of Study:* U.S.A., 1951.

TEALE, FRANCIS WILLIAM JOHN (*England*) *b. 1926.* Ph.D., Univ. of Birmingham 1950. Biochemistry (NS). Appointed from Univ. of Birmingham. *Place of Study:* U.S.A., 1951–52.

THALLER, VIKTOR (*Yugoslavia*) *b. 1919.* Chem.Eng., Univ. of Zagreb 1943. Biochemistry (NS). Appointed from Univ. of Zagreb. *Place of Study:* England, 1951–52.

THESLEFF, STEPHEN WILHELM (*Sweden*) *b. 1924.* M.D., Karo-

linska Inst., Stockholm, 1950. Medicine (DMPH). Appointed from Karolinska Inst. *Place of Study:* U.S.A., 1952–.

THOMSON, DONALD RENÉ (*World Health Organization*) *b. 1914.* M.D., Faculty of Med., Geneva, 1941. Public Health Administration (DMPH). Appointed from World Health Organization, Geneva. *Place of Study:* England, 1952–.

THORELLI, HANS BIRGER (*Sweden*) *b. 1921.* Phil.Lic., Univ. of Stockholm 1950. Political Science (DSS). Appointed from Univ. of Stockholm. *Place of Study:* U.S.A., 1951–52.

TOIDA, NAOKI (*Japan*) *b. 1911.* D.M.Sc., Kyushu Univ., Fukuoka, 1940. Physiology (DMPH). Appointed from Kyushu Univ. *Place of Study:* U.S.A., 1952–.

TOMŠIČ, IVAN (*Yugoslavia*) *b. 1902.* LL.D., Univ. of Ljubljana 1926. International Law (DSS). Appointed from Univ. of Ljubljana. *Place of Study:* England, U.S.A., 1951–53.

TONZIO, SERGIO (*Italy*) *b. 1905.* Libera Docenza in Bot., Univ. of Padua 1934. Biochemistry (NS). Appointed from Univ. of Milan. *Place of Study:* U.S.A., 1952.

TOURAINE, ALAIN (*France*) *b. 1925.* Agrégé de l'Université, Univ. of Paris 1950. Sociology (DSS). Appointed from National Center of Scientific Research, Paris. *Place of Study:* U.S.A., 1952–53.

TOWNSLEY, WILFRED ASQUITH (*Australia*) *b. 1909.* M.A., Univ. of Tasmania, Hobart, 1950. Political Science (DSS). Appointed from Univ. of Tasmania. *Place of Study:* England, France, 1952.

TOYAMA, YUZO (*Japan*) *b. 1912.* M.D., Keio Univ., Tokyo, 1945. Public Health Administration (DMPH). Appointed from National Inst. of Health, Tokyo. *Place of Study:* U.S.A., 1951–52.

TRENCHI, HEBERT (*Uruguay*) *b. 1912.* D.V.M., Univ. of Montevideo 1944. Agriculture (NS). Appointed from Ministry of Animal Industry and Agric. and the Faculty of Vet. Med., Montevideo. *Place of Study:* U.S.A., 1951–52.

TRIKOJUS, VICTOR MARTIN (*Australia*) *b. 1902.* Ph.D., Univ. of Oxford 1927. Biochemistry (NS). Appointed from Univ. of Melbourne. *Place of Study:* U.S.A., 1951–52.

TSUJI, TATSUHIKO (*Japan*) *b. 1916.* M.D., Tokyo Univ. 1940; Dr.Med.Sci., Inst. of Public Health, Tokyo, 1949. Public Health Administration (IHD). Appointed from Inst. of Public Health. *Place of Study:* U.S.A., 1951–52.

TURBAY, ABEL (*Colombia*) *b. 1921.* M.D., Javeriana Univ., Bogotá, 1950. Public Health Administration (DMPH). Appointed from Ministry of Hygiene, District of Choco, Colombia. *Place of Study:* U.S.A., Mexico, 1951–52.

TURER, ASUMAN (*Turkey*) *b. 1917.* R.N., Red Crescent School of Nursing, Istanbul, 1937. Nursing Education and Nursing

Administration (IHD); Nursing Education (DMPH). Appointed twice from Red Crescent School of Nursing. *Place of Study:* U.S.A., 1938–39; 1952–.

UNDA OPAZO, FRANCISCO (*Chile*) *b. 1920.* Civil Eng., Catholic Univ. of Chile, Santiago, 1951. Sanitary Engineering (DMPH). Appointed from Dept. of Health, Valparaíso. *Place of Study:* U.S.A., 1952–.

URBAN, HANS-JOACHIM (*Germany*) *b. 1918.* M.D., Univ. of Berlin 1943. Public Health Administration (IHD). Appointed from Med. Affairs and Public Welfare Branch, Office of the Land Commissioner for Hesse, Wiesbaden. *Place of Study:* U.S.A., 1951–52.

URBANI, ENRICO (*Italy*) *b. 1921.* Libera Docenza in Comparative Anat., Univ. of Rome 1951. Biochemistry (NS). Appointed from Univ. of Rome. *Place of Study:* Belgium, Denmark, 1951–52.

USHIBA, DAIZO (*Japan*) *b. 1913.* M.D., Keio Univ., Tokyo, 1936. Microbiology (DMPH). Appointed from Keio Univ. *Place of Study:* U.S.A., 1951–52.

UYSAL, AHMET EDIP (*Turkey*) *b. 1922.* M.A., Univ. of Aberdeen 1948. Literature (DH). Appointed from Univ. of Ankara. *Place of Study:* U.S.A., 1951–52.

VAUGHAN WILLIAMS, EDWARD MILES (*England*) *b. 1918.* M.B.B.S., Univ. of Oxford 1947. Physiology (BMRC). Appointed from Univ. of Oxford. *Place of Study:* U.S.A., 1951–52.

VEIGA, JOÃO SOARES (*Brazil*) *b. 1913.* D.V.M., Vet. Med. School, São Paulo, 1936. Agriculture (NS). Appointed from Univ. of São Paulo. *Place of Study:* U.S.A., Central and South America, 1951.

VERDADE, FRANCISCO DA COSTA (*Brazil*) *b. 1921.* Agron.Eng., Luiz de Queiroz School of Agric., Piracicaba. Agriculture (DNSA). Appointed from Inst. of Agron., Campinas. *Place of Study:* U.S.A., 1952–.

VERHOEFF, ABRAHAM (*Netherlands*) *b. 1925.* English doctorate, Univ. of Amsterdam 1951. Criticism (DH). Appointed from 1) Hervormd Lyceum; 2) Univ. of Amsterdam. *Place of Study:* England, 1948–49; U.S.A., 1952–.

VERSCHAEVE, GEORGINE (*Belgium*) *b. 1916.* Univ.Dipl., Univ. School of Nursing, Brussels, 1951. Nursing Education (DMPH). Appointed from Univ. School of Nursing. *Place of Study:* U.S.A., 1952–.

VESTERDAL, JORGEN (*Denmark*) *b. 1916.* M.D., Univ. of Copenhagen 1941. Pediatrics (DMPH). Appointed from Univ. Clinic of Pediat., Rigshopitalet, Copenhagen. *Place of Study:* U.S.A., 1951–52.

VILLAS-BOAS, MARIA JULIETA CALMON (*Brazil*) *b. 1920.* Bahia Nursing School 1947–50. Nursing Education (DMPH). Appointed from Bahia Nursing School. *Place of Study:* Canada, U.S.A., 1952–.

VON RANTZAU, JOHANN ALBRECHT (*Germany*) *b. 1900.* Dr.habil., Univs. of Kiel, Vienna, Würzburg, 1930. History (DH). Appointed from Univ. of Hamburg. *Place of Study:* U.S.A., 1952–53.

VON SCHELTING, ALEXANDER (*Germany; Switzerland*) *b. 1894.* Ph.D., Univ. of Heidelberg 1922. Sociology (DSS); Slavic Studies (DH). Appointed from 1) Archive for Social and Political Sciences, Heidelberg; 2) Switzerland. *Place of Study:* U.S.A., 1934–35; Switzerland, France, 1951–53.

WAGER, ODD A. (*Finland*) *b. 1921.* Lic. in Med., Univ. of Helsinki 1948. Microbiology (MS). Appointed from Univ. of Helsinki. *Place of Study:* U.S.A., 1951–52.

WAIN, RALPH LOUIS (*England*) *b. 1911.* D.Sc., Univ. of London 1949. Agriculture (NS). Appointed from Univ. of London. *Place of Study:* U.S.A., Canada, 1951.

WAINIO, WEIJO W. (*Finland*) *b. 1924.* Ph.D., Univ. of Helsinki 1951. Economics (DSS). Appointed from Univ. of Helsinki. *Place of Study:* U.S.A., 1951–52.

WANNER, HANS (*Switzerland*) *b. 1917.* Ph.D., Univ. of Zurich 1941. Biology (DNSA). Appointed from Univ. of Zurich. *Place of Study:* U.S.A., 1952.

WARIS, HEIKKI (*Finland*) *b. 1901.* Ph.D., Univ. of Helsinki 1932. Sociology (DSS). Appointed twice from Univ. of Helsinki. *Place of Study:* U.S.A., England, 1934–35; U.S.A., England, 1952–53.

WASASTJERNA, CURT G. V. (*Finland*) *b. 1918.* M.D., Univ. of Helsinki 1945. Medicine (MS). Appointed from Univ. of Helsinki. *Place of Study:* U.S.A., 1951–52.

WATLING, PETER CHARLES (*England*) *b. 1914.* B.A., Univ. of Oxford 1937. Drama (DH). Appointed from MGM British Studios, Ltd., London. *Place of Study:* U.S.A., 1952–53.

WEBER, ANNEMARIE (*Germany*) *b. 1923.* M.D., Univ. of Tübingen 1950. Physiology (DMPH). Appointed from Univ. of Tübingen. *Place of Study:* U.S.A., 1951–52.

WEIBULL, CLAES PETER WALTER (*Sweden*) *b. 1921.* Ph.D., Univ. of Uppsala 1950. Biochemistry (DNSA). Appointed from Univ. of Uppsala. *Place of Study:* U.S.A., 1952–.

WEIDEN, SARA (*Australia*) *b. 1921.* M.Sc., Univ. of Melbourne 1947. Chemistry (DMPH). Appointed from Walter and Eliza Hall Inst. of Med. Research, Melbourne. *Place of Study:* U.S.A., 1952–.

WEIN, HERMANN KARL (*Germany*) *b. 1912.* Ph.D., Univs. of Vienna and Freiburg 1936. Philosophy (DH). Appointed from Univ. of Göttingen. *Place of Study:* U.S.A., 1951–52.

WELLAND, DENNIS SYDNEY REGINALD (*England*) *b. 1919.* Ph.D., Univ. of Nottingham 1951. Criticism (DH). Appointed from Univ. of Nottingham. *Place of Study:* U.S.A., 1952–.

WELLE-STRAND, KIRSTEN (*Norway*) *b. 1923.* D.P.H.N., State School of Public Health Nursing, Oslo, 1951. Nursing Education (DMPH). Appointed from Dept. of Health, Bergen. *Place of Study:* U.S.A., 1952–.

WESTERSTÅHL, HANS JÖRGEN (*Sweden*) *b. 1916.* Ph.D., Univ. of Stockholm 1945. Political Science (DSS). Appointed from Univ. of Stockholm. *Place of Study:* U.S.A., 1951.

WIESELSBERGER, FRIEDRICH (*Germany*) *b. 1923.* Dipl.Ing., Munich Tech. Inst. 1948. Sanitary Engineering (DMPH). Appointed from Bavarian State Ministry of Interior, Munich. *Place of Study:* U.S.A., 1951–52.

WIHERHEIMO, ONNI VIHTORI (*Finland*) *b. 1904.* Ph.D., Univ. of Helsinki 1950. Social Psychology (DSS). Appointed from School of Social Sci., Helsinki. *Place of Study:* U.S.A., England, 1952.

WILSON, JAMES REUBEN (*Australia*) *b. 1926.* M.Econ., Univ. of Sydney 1952. Economics (DSS). Appointed from Univ. of Sydney. *Place of Study:* England, 1952–.

WINKMANN, HANS (*Germany*) *b. 1915.* Dr.rer.pol., Univ. of Cologne 1950. Sociology (DSS). Appointed from Univ. of Cologne. *Place of Study:* U.S.A., 1952–53.

WIRTH, ALBERTO (*Italy*) *b. 1920.* M.D., Univ. of Milan 1946; Ophthalmol., 1949. Physiology (DMPH). Appointed from Univ. of Parma. *Place of Study:* Sweden, 1952–.

WITT, PETER NIKOLAUS (*Switzerland*) *b. 1918.* M.D., Univ. of Tübingen 1946. Pharmacology (DMPH). Appointed from Univ. of Bern. *Place of Study:* U.S.A., 1952–.

WITZ, JEAN PAUL (*France*) *b. 1922.* M.D., Univ. of Strasbourg 1946. Surgery (DMPH). Appointed from Faculty of Med., Strasbourg. *Place of Study:* U.S.A., 1951–52.

WORK, TELFORD HINDLEY (*U.S.A.*) *b. 1921.* M.D., Stanford Univ. 1946; D.T.M. and H., London School of Hygiene and Trop. Med. 1949. Public Health Administration (DMPH). Appointed from Fijian Colonial Govt., Suva. *Place of Study:* U.S.A., 1951–52.

XIRAU, RAMÓN (*Mexico*) *b. 1924.* M.A., National Univ. of Mexico, Mexico, D.F., 1946. Literature (DH). Appointed from Mexico City Coll. *Place of Study:* Mexico, 1951–52.

YOLAC, LEMAN (*Turkey*) *b. 1922.* B.A., Univ. of Ankara 1943. Criticism (DH). Appointed from Univ. of Ankara. *Place of Study:* U.S.A., 1952.

YULE, GEORGE S. S. (*Australia*) *b. 1919.* M.A., Univ. of Melbourne 1945. History (DSS). Appointed from Univ. of Melbourne. *Place of Study:* England, 1952–.

ZELEZNIK, CARTER (*U.S.A.*) *b. 1925.* M.A., Univ. of Michigan 1950. Near Eastern Studies (DH). Appointed from Univ. of Michigan. *Place of Study:* Near East, 1951–52.

REPORT OF THE TREASURER

TREASURER'S REPORT

IN the following pages is submitted a report of the financial transactions of The Rockefeller Foundation for the year ended December 31, 1952.

BALANCE SHEET — DECEMBER 31, 1952

ASSETS

SECURITIES (Ledger value)		$164,292,660.38
(Market value $363,692,554.62)		
CURRENT ASSETS		
Cash on deposit		3,083,171.82
Advances and deferred charges	$373,707.33	
Sundry accounts receivable	66,137.17	439,844.50
EQUIPMENT		
In New York		75,175.05
		$167,890,851.75

BALANCE SHEET — DECEMBER 31, 1952

FUNDS AND OBLIGATIONS

PRINCIPAL FUND		$137,156,143.83
COMMITMENTS		
Unpaid appropriations	$25,603,944.07	
Unappropriated authorizations	1,574,849.00	27,178,793.07
INCOME AVAILABLE FOR COMMITMENT		3,396,176.00
CURRENT LIABILITIES		
Accounts payable		84,563.80
EQUIPMENT FUND		75,175.05
		$167,890,851.75

PRINCIPAL FUND

Balance, December 31, 1951			$131,491,910.86
Add			
Amount transferred from Appropriation Account No. 2 in accordance with action of the Trustees on December 2, 1952		$6,024,703.18	
Gifts received			
Mrs. Elizabeth Yaggy	$500.00		
Mrs. Rodolph Linscomb	20.00		
Anonymous	12,000.00	12,520.00	6,037,223.18
			$137,529,134.04
Less			
Amount by which securities sold, redeemed, etc. failed to equal their ledger value			372,990.21
Balance, December 31, 1952			$137,156,143.83

APPROPRIATIONS AND PAYMENTS

Unpaid appropriations, December 31, 1951		$29,429,228.78
Appropriations during the year 1952 (For detail see pages 364–418):		
Medicine and Public Health	$3,599,698.00	
Natural Sciences and Agriculture	3,862,150.00	
Social Sciences	4,366,835.00	
Humanities	1,335,075.00	
General	1,369,720.00	
Administration	2,106,877.00	
	$16,640,355.00	
Unused balances of appropriations allowed to lapse	1,094,988.63	15,545,366.37
		$44,974,595 15

Payments on 1952 and prior years' appropriations		
(For detail see pages 364–418)		
Medicine and Public Health	$3,534,653.45	
Natural Sciences and Agriculture	2,776,384.47	
Social Sciences	4,185,399.31	
Humanities	1,459,407.16	
General Education Board	4,900,000.00	
General	597,795.64	
Administration	1,917,011.05	$19,370,651.08
Unpaid appropriations, December 31, 1952		$25,603,944.07

UNAPPROPRIATED AUTHORIZATIONS

Unappropriated authorizations, December 31, 1951	$1,489,106.00
Add	
Authorizations during 1952 for later appropriation by the Executive Committee	100,000.00
	$1,589,106.00
Less	
Authorizations allowed to lapse	14,257.00
Unappropriated authorizations, December 31, 1952	$1,574,849.00

FUNDS AVAILABLE FOR COMMITMENT

Appropriation Account No. 1			
Funds available for commitment, December 31, 1951			$2,031,970.73
Add			
Income and refunds			
Income from securities		$16,893,519.54	
Refunds		154,974.14	
Unused balances allowed to lapse			
Appropriations	$1,041,809.59		
Authorizations	14,257.00	1,056,066.59	18,104,560.27
			$20,136,531.00
Deduct			
Appropriations		$16,640,355.00	
Authorizations		100,000.00	16,740,355.00
Income available for commitment, December 31, 1952			$3,396,176.00
Appropriation Account No. 2			
Funds available for commitment, December 31, 1951		$5,971,524.14	
Add			
Unused balances of appropriations allowed to lapse		53,179.04	$6,024,703.18
Unappropriated balance reverting to Principal Fund			6,024,703.18
Balance, December 31, 1952			

APPROPRIATIONS AND UNAPPROPRIATED AUTHORIZATIONS

Commitments, December 31, 1951			
Unpaid appropriations		$29,429,228.78	
Unappropriated authorizations		1,489,106.00	$30,918,334.78
Add			
Appropriations		$16,640,355.00	
Authorizations		100,000.00	
		$16,740,355.00	
Less lapses			
Appropriations	$1,094,988.63		
Authorizations	14,257.00	1,109,245.63	15,631,109.37
			$46,549,444.15
Deduct			
Payments on 1952 and prior years' appropriations			19,370,651.08
Commitments, December 31, 1952			
Unpaid appropriations		$25,603,944.07	
Unappropriated authorizations		1,574,849.00	$27,178,793.07

EQUIPMENT FUND

	Balance Dec. 31, 1951	Changes during 1952 Additions	Depreciation	Balance Dec. 31, 1952
Library	$9,735.00	$1,117.00	$711.00	$10,141.00
Equipment	63,247.08	6,458.40	4,671.43	65,034.05
	$72,982.08	$7,575.40	$5,382.43	$75,175.05

APPROPRIATIONS DURING 1952, UNPAID BALANCES OF PRIOR YEAR APPROPRIATIONS, AND PAYMENTS THEREON IN 1952

	Appropriations Prior Years	Appropriations 1952	1952 Payments
Medicine and Public Health			
Investigation and Control of Specific Diseases and Deficiencies			
Malaria			
Caribbean Area			
Tobago. 1951–1952 (GA 5011, 51117, 52112)	$7,897.35	$.....	$6,437.02
Europe			
Italy			
Field laboratory for study of insecticides in Latina. 1951 (GA 5022)	4,157.63	.....	2,674.43
Sardinia Anopheles Eradication Program. 1949–1953 (IH 50126)	22,076.56	.....	8,064.21
Sardinia Public Health Program. 1951–1952 (GA 5167, 5198)	1,332.16	.....	1,170.90
Far East			
India			
Mysore studies and control demonstration. 1951–1954 (IH 50130, GA 51118, 52119)	17,925.04	.....	6,282.61
Mexico			
Studies on control of insect vectors with DDT. 1951–1952 (GA 5189, 51131)	5,019.26	.....	4,431.88
South America			
Brazil. Equipment for research. 1950–1952 (GA 5009)	1,956.81	.....	.....
Venezuela. 1950 (GA 5002, 5018)	743.46	.....	174.24
Nutrition			
Far East			
India			
Mysore anemia studies. 1949–1953 (IH 51114, GA 5016, 52123)	7,545.35	.....	3,933.54

United States			
Vanderbilt University, Nashville, Tennessee			
School of Medicine. 1949–1952 (IH 49016)	$408.83	$.....	$.....
Tuberculosis			
United States			
Tennessee. 1951–1953 (IH 50168, RF 51185, 52193)	17,438 93	18,960 00	15,450.40
Virus Diseases			
Central Laboratory in New York			
Maintenance. 1951–1953 (IH 50124, RF 51043, 51199, 52177)	172,027.15	150,000.00	167,362.20
Field Laboratories			
Egypt, Cairo. 1952–1953 (RF 51199, RF 52177)	3,720.00	35,000.00	1,406.92
India, Poona. 1951–1953 (GA 5151, 51106, RF 51199, 52177)	87,101.52	30,000.00	34,917.25
Trinidad, Port of Spain. 1952–1953 (RF 51199, RF 52177)	30,000.00	35,000.00	.....
Africa, South America, elsewhere. 1952–1953 (RF 51199, RF 52177)	91,280.00	25,000.00	.....
France			
Pasteur Institute, Paris			
To purchase equipment for Virus Research Division (RF 52088)	.....	20,000.00	10,000.30
Yellow Fever			
Africa			
Central and East Africa. 1948–1949 (IH 47041, 48016)	1,711.30	.....	.....
West Africa. 1947–1949 (IH 46048, 47042, 48017)	16,135.73	.....	14,611.54
United States. Book: *Yellow Fever*. 1950–1954 (GA 5001, RF 51098)	6,040.31	.....	.....
Other Studies			
Taxonomic Center and Insectary			
United States			
Johns Hopkins University, Baltimore, Maryland			
Department of Parasitology (IH 47044)	17.66	.....	*Cr.* 20.62

	Appropriations Prior Years	Appropriations 1952	1952 Payments
Medicine and Public Health — *Continued*			
Development of the Health Sciences			
United States			
Child Research Council of Denver, Colorado			
Studies in child growth and development (RF 48057, 49116, 50068, 51154)	$112,547.82	$.....	$25,000.00
Columbia University, New York			
Study of the effects of fetal and neonatal injury on growth and functional development (RF 47051)	8,797.10	.....	8,797.10
Work in brain chemistry (RF 50010, 52094)	4,000.00	6,000.00	7,000.00
Duke University, Durham, North Carolina			
Work in parapsychology (RF 50052)	15,000.00	.....	9,999.96
Georgia State College for Women, Milledgeville			
Research in medical genetics (RF 52042)	.....	3,000.00	2,000.00
Harvard University, Cambridge, Massachusetts			
Research on physiological aspects of the development of behavior patterns at the Laboratory of Social Relations (RF 51179)	75,000.00	.....	42,041.50
Investigation of the dynamics of personality development (RF 48016)	9,281.22	.....	8,642.99
Investigation of personality (RF 52093)	.....	30,000.00	.....
Teaching and research in psychiatry in the Harvard Medical School (RF 48055)	31,506.62	.....	12,480.00
Study of adult development by Department of Hygiene (RF 50097)	5,000.00	.....	3,750.00
Indiana University, Bloomington			
Research in psychotherapy (RF 52113)	.....	56,500.00	10,625.00
Massachusetts General Hospital, Boston			
Research in endocrinology and metabolism (RF 49107, 52129)	5,051.74	10,000.00	6,000.00
Massachusetts Institute of Technology, Cambridge			
Studies in mathematical biology conducted jointly with the National Institute of Cardiology, Mexico, D.F. (RF 47009) (Joint project with Natural Sciences and Agriculture)	5,509.41	.....	.....

McLean Hospital, Waverley, Massachusetts			
Research in brain chemistry (RF 52079)	$.....	$100,000.00	$100,000.00
National Association for Mental Health, New York			
General support (RF 51113)	50,000.00	.....	50,000.00
National Research Council, Washington, D. C.			
Committee for Research in Problems of Sex (RF 49074, 51063)	202,870.29	.....	78,557.34
New England Medical Center, Boston, Massachusetts			
Research in endocrinology (RF 50076)	30,000.00	.....	8,000.00
New York University, New York			
Interdepartmental project on the rehabilitation of neurological patients (RF 49075, 51169)	86,490.07	.....	20,292.90
Princeton University, New Jersey			
Work of Department of Psychology (RF 52037)	.....	25,000.00	25,000.00
Roscoe B. Jackson Memorial Laboratory, Bar Harbor, Maine			
Studies of genetic factors of intelligence and emotional variation in mammals (RF 50005, 51019, 52080)	100,000.00	50,000.00	50,000.00
Tulane University, New Orleans, Louisiana			
Salary of a research associate in its law-science program (RF 51188)	3,116.85	.....	3,116.85
University of California, Berkeley			
Establishment of an Institute for Personality Assessment and Research (RF 49048)	26,492.64	.....	19,938.95
University of Chicago, Illinois			
Teaching and research in psychiatry (RF 47050)	10,000.00	.....	10,000.00
Investigation of nondirective psychotherapy (RF 51081)	104,000.00	.....	46,000.00
University of Cincinnati, Ohio			
Support of Department of Psychiatry (RF 47121, 52030)	88,863.70	40,000.00	128,863.70
University of Illinois, Urbana			
Research in brain chemistry (RF 51090)	20,000.00	.....	8,000.00

	Appropriations Prior Years	Appropriations 1952	1952 Payments
Medicine and Public Health — *Continued*			
Development of the Health Sciences — Continued			
United States — *Continued*			
University of Minnesota, Minneapolis			
Research in human genetics at the Dight Institute of Human Genetics (RF 51016)	$22,750 00	$.....	$9,100.00
University of Oregon, Eugene			
Work in neurophysiology (RF 48071)	3,000.00	.....	*Cr.* 535.69
University of Oregon Medical School, Portland			
Work in constitutional medicine (RF 51004)	85,000.00	.....	11,450.00
University of Texas, Austin			
Salary of a research associate in its law-science program (RF 52153)	4,383.15	.....	2,383.15
Washington University, St. Louis, Missouri			
School of Medicine. Support of Department of Neuropsychiatry (RF 47041)	10,249 91	.....	9,984.96
Western Reserve University, Cleveland, Ohio			
Research in psychiatry, especially in biochemistry related to mental disease (RF 48056)	21,248.85	.....	12,870.97
Yerkes Laboratories of Primate Biology, Orange Park, Florida			
Building and general budget (RF 47019, 50073, 51121)	140,006.04	.....	20,000.00
Canada			
British Columbia			
Local health work. 1936–1952 (IH 36021, 38024)	14,943.80	.....	.....
Dalhousie University, Halifax, Nova Scotia			
Joint study by Department of Obstetrics and Gynecology and by Department of Psychiatry of psychological factors in pregnancy and childbirth (RF 51007)	18,750.00	.....	7,500.00

McGill University, Montreal			
Maintenance of Department of Psychiatry (RF 49033)	$45,390.85	$.....	$31,875.00
Research on the physiological basis of behavior (RF 51172)	26,160.00	.....	7,587.87
University of Toronto			
Development of a laboratory of experimental clinical neurology (RF 49049)	16,303.47	.....	8,094.77
Mexico			
National Institute of Cardiology, Mexico, D.F.			
Research in neurophysiology and pharmacology (RF 49036)	18,324.49	.....	5,735.52
Office of Special Sanitary Service (Cooperative Central Office). 1951–1952 (GA 5013)	2,402.38	.....	2,238.89
Caribbean Area			
Dominican Republic			
Endemic Disease Control Service. 1951–1953 (GA 5023, 51100, 52118)	10,715.91	.....	6,715.91
South America			
Argentina			
Institute of Biology and Experimental Medicine, Buenos Aires. Support of research (RF 47067)	336.14	.....	29.56
Bolivia			
Division of Rural Endemic Diseases. 1948–1952 (IH 47049, GA 5197)	17,426.05	.....	12,165.19
Chile			
Local health work. 1950–1952 (IH 49024, RF 51217, GA 5111)	29,678.10	.....	10,389.81
National Department of Sanitary Engineering. 1951–1953 (IH 50128, RF 51184, 52190)	29,140.62	30,000.00	9,933.12
Peru			
Division of Development of Program of Ministry of Health. 1945–1953 (IH 44015, 45054, 47024, 47025, 47026, 47027, 48036, 50170)	103,755.34	.....	17,790.90
Institute of Andean Biology, University of San Marcos, Lima			
Equipment for a high altitude laboratory at Morococha (RF 49061)	157.25	.....	.....

	Appropriations Prior Years	Appropriations 1952	1952 Payments
Medicine and Public Health — *Continued*			
Development of the Health Sciences — Continued			
Europe			
Belgium			
University of Brussels			
Research in neurophysiology (RF 50088)	$21,175.22	$.....	$6,002.83
University of Liège			
Development of the Laboratory of Neuroanatomy (RF 50143)	11,838.33	.....	4,346.11
Denmark			
National Health Department. 1950–1954 (IH 49031, RF 52017)	4,322.50	19,500.00	3,637.50
University of Aarhus			
Development of research and teaching in psychiatry (RF 49004)	11,884.94	.....	3,526.92
University of Copenhagen			
Establishment of a Child Guidance Clinic (RF 50009)	28,901.71	.....	11,738.48
Work in the genetics of mental defectiveness (RF 48112)	10,123.90	.....	2,791.65
Finland			
Local health work. 1950–1953 (IH 49025)	21,694.71	.....	.....
France			
Collège de France, Paris			
Equipment for an experimental monkey station in Algeria (RF 49001)	5,945.12	.....	4,887.82
Survey of Soissons area. 1951–1952 (GA 5017)	3,464.37	.....	3,160.92
Germany			
University of Heidelberg			
Establishment of an Institute of Psychosomatic Medicine (RF 50001)	39,445.94	.....	27,060.16
University of Würzburg (Julius-Maximilians-Universität)			
Neurological research (RF 52041)	.....	12,750.00	4,288.07
Great Britain			
Burden Neurological Institute, Bristol, England			
Research in neurophysiology (RF 47088, 52122)	12,952.34	27,000.00	3,498.87

Cardiff City Mental Hospital, Wales			
Research in normal and pathological biochemistry of brain tissue (RF 48014)	$11,943.04	$.....	$5,019.76
Medical Research Council of Great Britain, London, England			
Purchase of scientific equipment (RF 51182)	38,000.00	.....	35,297.83
St. Thomas' Hospital Medical School, London, England			
Research on the relationship between physical form and physiological function (RF 52096)	.....	13,500.00	841.88
Tavistock Institute of Human Relations, London, England			
General support (RF 49003, 52001)	18,690.60	105,000.00	19,497.19
University of Cambridge, England			
Research in neurophysiology (RF 46014, 50024)	17,323.33	.....	2,566.72
University of Edinburgh, Scotland			
Research in psychiatry, neurology, and neurosurgery (RF 47007)	4,956.81	.....	2,263.46
University of London, England			
Galton Laboratory			
Research in problems of human heredity (RF 50085)	23,899.61	.....	4,433.80
University of Oxford, England			
Neurohistological research in the Department of Human Anatomy (RF 48058)	38,258.64	.....	6,703.99
Italy			
Institute of Experimental Psychology, Florence			
Research on the psychological aspects of school-child health and development (RF 52163)	.....	16,740.00	.....
Superior Institute of Public Health, Rome			
Research on the biology of the housefly (RF 52144)	.....	49,040.00	.....
University of Pavia			
Institute of Zoology. Research on the cytogenetics of anopheline mosquitoes (GA 5010, RF 52147)	2,557.16	7,200.00	2,212.11
University of Pisa			
Support of teaching and research in Department of Physiology (RF 51100)	8,335.80	.....	3,817.11

	Appropriations Prior Years	Appropriations 1952	1952 Payments
Medicine and Public Health — *Continued*			
Development of the Health Sciences — Continued			
Europe — *Continued*			
Netherlands			
National Health Department. 1950–1952 (IH 49032)	$8,000.00	$.....	$8,000.00
University of Amsterdam			
Support of the Psychosomatic Unit at the Wilhelmina Hospital (RF 51153)	53,437.25	.....	10,800.53
Norway			
Norwegian Ministry of Social Welfare			
Salary increases in Health Department. 1946–1952 (HC 46014)	2,500.00	.....	.....
University of Oslo			
Establishment of a research laboratory of respiratory physiology at the Ulleval Hospital (RF 51011)	12,081.60	.....	7,354.81
Investigation of the incidence of mental disease (RF 51026)	7,595.00	.....	2,810.00
Sweden			
Karolinska Institute, Stockholm			
Research in neurophysiology (RF 49120)	4,000.00	.....	3,000.00
University of Lund			
Research in endocrinology (RF 50165)	3,641.80	.....	2,902.50
Switzerland			
University of Geneva			
Support of an Institute of Human Genetics (RF 50164)	7,000.00	.....	4,000.00
University of Zurich			
Psychiatric research (RF 50144)	13,555.50	.....	1,912.21
Africa and Asia Minor			
Egypt			
Local health work. 1951–1952 (IH 50129)	6,708.42	.....	6,410.18

Iran			
Local health work. 1950–1952 (IH 49034, RF 51025)	$20,091.57	$.....	$21.00
Australia			
Walter and Eliza Hall Institute of Medical Research, Melbourne, Victoria			
Equipment for research on virus diseases (RF 51064)	2,555.63	.....	49.25
Far East			
India			
Indian Cancer Research Centre, Bombay			
Operation of a laboratory for studies on human variation (RF 52192)	.....	23,800.00	.....
Mysore State Department of Public Health			
Improvement of laboratory services. 1953–1954 (GA 52138)	6,000.00	.....	.....
Medical Care			
United States			
American Public Health Association, Washington, D. C.			
Support of Subcommittee on Medical Care. 1950–1956 (IH 49010, RF 52055)	15,000.00	115,000.00	30,000.00
Educational Trust of the American Hospital Association, Chicago, Illinois			
National study of the financing of hospital care. 1950–1952 (IH 49011)	30,000.00	.....	30,000.00
Health Insurance Plan of Greater New York			
Study of the recorded experience of the plan (RF 51070)	74,361.00	.....	19,035.57
Study to determine the type of worker, or workers, required to provide certain basic health and social welfare services within the family (IH 50001, RF 51152)	39,397.78	.....	17,176.29
University of North Carolina, Chapel Hill			
Division of Health Affairs. Research and planning for a state-wide health and medical care program (RF 52006)	.....	56,250.00	36,654.00
Canada			
University of Toronto			
Faculty of Medicine and the School of Hygiene. Teaching and research in medical care (RF 52130)	.....	10,500.00	5,250.00

	Appropriations Prior Years	Appropriations 1952	1952 Payments
Medicine and Public Health — *Continued*			
Medical Care — Continued			
Great Britain			
University of Manchester, England			
Development of an experimental health center (RF 50101)	$87,500.00	$.....	$.....
Professional Education			
United States			
Cornell University, Ithaca, New York			
Statistical consultant in the Department of Preventive Medicine at the Medical College (RF 51119)	23,500.00	.....	.....
Harvard University, Cambridge, Massachusetts			
Support of School of Public Health. 1946–56 (RF 45109)	400,000.00	.....	100,000.00
Development of legal medicine (RF 44001, 52075)	12,230.64	100,000.00	32,005.92
Development of Department of Dermatology of Harvard Medical School (RF 48039)	70,135.28	.....	11,630.08
Johns Hopkins University, Baltimore, Maryland			
Institute of History of Medicine (RF 49050, 50035, 51074)	75,000.00	.....	30,000.00
School of Hygiene and Public Health. For developmental purposes, 1948–1958 (RF 48037)	455,000.00	.....	75,000.00
National League of Nursing Education, New York			
National Committee for the Improvement of Nursing Service. Program of the National Nursing Accrediting Service (RF 51057)	32,500.00	.....	32,500.00
New England Center Hospital, Boston, Massachusetts			
Postgraduate medical education in certain rural areas and towns in Massachusetts (RF 50100)	60,000.00	.....	29,269.53
Teachers College, Columbia University, New York			
Nursing education research, experimentation, and field service (RF 52103)	.....	100,000.00	.....

University of California, Berkeley			
Department of Public Health and Medical Administration (GA 5020)	$5,000.00	$.....	$5,000.00
University of Colorado, Boulder			
School of Medicine. Conference on the teaching of public health and preventive medicine (RF 51066)	14,000.00	.....	14,000.00
Washington University, St. Louis, Missouri			
School of Medicine. Teaching of preventive medicine (RF 47042, 52111)	1,421.85	73,500.00	7,249.88
Yale University, New Haven, Connecticut			
Work in the history of medicine (RF 51065)	12,000.00	.....	1,500.00
Canada			
University of Toronto			
School of Hygiene and Public Health. Instruction and studies in medical care (GA 5019)	3,481.81	.....	3,099.39
School of Nursing. Construction of new building (RF 45037)	300,000.00	.....	.....
Mexico			
Training of health personnel in the states. 1951 (GA 5012)	710.12	.....	659.81
National Institute of Cardiology, Mexico, D.F.			
Equipment (RF 52082)	.....	50,000.00	6,000.00
South America			
Brazil			
Araraquara Health Training Center. 1951–1953 (GA 5014, 51124, 52114)	19,612.36	.....	5,010.22
Chile			
Catholic University of Chile, Santiago			
Apparatus and research expenses of Departments of Physiology, Pharmacology, and Biochemistry of the Medical School (RF 51131)	6,543.76	.....	2,668.46
School of Public Health, University of Chile, Santiago			
Courses for sanitary engineers (GA 51121)	4,000.00	.....	1,663.65

	Appropriations Prior Years	Appropriations 1952	1952 Payments
Medicine and Public Health — *Continued*			
Professional Education — Continued			
South America — *Continued*			
Colombia			
National School of Hygiene, Bogotá			
General expenses (IH 48007)	$14,681.66	$.....	$2,337.90
National Superior School of Nursing, Bogotá			
Teaching unit for psychiatric nursing (IH 48013)	6,899.59	.....	.....
Ecuador			
School of Nursing, Quito			
General expenses (IH 47023)	897.86	.....	896.95
Uruguay			
University Nursing School, Montevideo			
General budget (IH 47054)	21,473.47	.....	530.90
Europe			
Austria			
University of Vienna			
Local fellowships for training in child psychiatry (RF 52162)	.....	17,200.00	.....
Belgium			
University of Brussels			
Teaching and research in preventive medicine (RF 47122)	11,121.10	.....	1,994.38
Support of Department of Social Medicine (RF 52034)	.....	25,000.00	.....
Denmark			
Danish Technical University, Copenhagen			
Developing teaching and experimental facilities (IH 49042)	455.04	.....	.....
Finland			
Helsinki College of Nursing			
General budget (IH 47062)	3,615.00	.....	3,615.00
Helsinki Institute of Industrial Hygiene			
Scientific equipment (IH 49026)	3,488.74	.....	1,379.28

France			
Association pour la Santé Mentale de l'Enfance, Paris			
Development of child mental health teaching and research (RF 52158)	$.....	$100,000.00	$.....
Germany			
University of Heidelberg			
School of Nursing. Teaching material and equipment and for travel of staff (RF 52123)	.....	26,000.00	934.35
Teaching and research at the Physiological Institute (RF 52097)	.....	10,000.00	2,386.78
Great Britain			
Institution of Civil Engineers, London, England			
Bursaries for graduate training and research in public health engineering in universities in the United Kingdom (RF 52086)	.....	36,000.00	5,151.09
London School of Hygiene and Tropical Medicine, University of London, England			
Public health engineering (IH 49001)	13,611.19	.....	9,919.93
Public health practice experiments (GA 5024)	5,000.00	.....	5,000.00
Rehabilitation of teaching and public health personnel (HC 45002)	13,810.58	.....	8,184.05
University College, University of London, England			
Study of medical student selection (RF 48008, 52160)	9,350.87	30,000.00	4,185.86
University of Edinburgh, Scotland			
Faculty of Medicine. Teaching of family practice (RF 52140)	.....	75,000.00	.....
Italy			
University of Rome			
Engineering School. Development of teaching facilities (IH 48008)	1,658.51	.....	.....
Netherlands			
Institute of Preventive Medicine, Leiden			
Development of institute (IH 47064, 49035)	32,677.90	.....	.....
University of Utrecht			
Teaching and research at the Institute of Clinical and Industrial Psychology (RF 51132)	11,075.21	.....	6,840.06

	Appropriations Prior Years	Appropriations 1952	1952 Payments
Medicine and Public Health — *Continued*			
Professional Education — Continued			
Europe — *Continued*			
Sweden			
Karolinska Institute, Stockholm			
Construction of a laboratory for Department of Experimental Surgery (RF 52004)	$.....	$200,000.00	$.....
State Institute of Public Health, Stockholm			
Equipment. 1951 (GA 5021)	3,746.89	.....	3,591.13
Switzerland			
Le Bon Secours School of Nursing, Geneva			
Development of graduate and undergraduate nursing education programs (IH 47033, RF 52187)	8,700.91	36,000.00	4,578.92
Yugoslavia			
Development of School of Public Health Engineering at Institute of Hygiene and School of Engineering, Zagreb (IH 50127)	12,355.96	.....	6,445.25
Miscellaneous			
European Symposia on Medical Education (RF 52024)	.....	7,000.00	3,224.10
Far East			
Ceylon			
National School of Nursing, Colombo			
Developmental aid (IH 48005)	5,467.32	.....	3,433.14
Japan			
Institute of Public Health, Tokyo			
Books, periodicals, and teaching aids (C-11)	199.57	.....	.....
Teaching facilities (RF 52013, GA 5008)	311.22	25,000.00	23,354.59

Keio University, Tokyo			
Equipment for cardiopulmonary research laboratory in Medical School (RF 52095)	$.....	$15,000.00	$11,548.56
Purchase of medical books and periodicals to be distributed to various medical schools in Japan upon recommendation of the Japanese Council on Medical Education (RF 51099)	9,805.00	.....	9,799.60
Australia			
University of Melbourne			
Equipment and supplies for the Department of Physiology (RF 51162)	6,000.00	.....	120.61
Miscellaneous			
Journals, periodicals, and books for public health institutions and schools in need of assistance as a result of the war (HC 45012, GA 5015)	3,768.72	.....	1,148.89
Fellowships and Grants in Aid			
Fellowships			
Administered by The Rockefeller Foundation (RF 48101, 48138, 49144, 50153, 51220, 52146, 52194, IH 46055, 48032, 49037, 50152)	757,837.81	425,000.00	415,144.48
Medical Library Association, Detroit, Michigan			
Fellowships in medical librarianship (RF 51075)	26,000.00	.....	10,350.00
Medical Research Council of Great Britain, London, England (RF 50016, 52008)	23,611.31	50,000.00	26,332.46
National Research Council, Washington, D. C.			
Medical Sciences (RF 46133, 50084, 51151)	155,680.33	.....	48,003.20
Welch Fellowships in internal medicine (RF 41028)	31,959.22	.....	17,382.40
Grants in Aid			
Administered by The Rockefeller Foundation (RF 45123, 46120, 46139, 47089, 47138, 48142, 49148, 50090, 50158, 51159, 51224, 52198)	661,397.63	300,000.00	270,362.94

	Appropriations Prior Years	Appropriations 1952	1952 Payments
Medicine and Public Health — *Continued*			
Fellowships and Grants in Aid — Continued			
Grants in Aid — *Continued*			
Special Emergency Grant-in-Aid Fund			
Scientific equipment for medical science laboratories of universities and technical schools in the Netherlands (RF 45089) (Joint project with Natural Sciences and Agriculture)	$6,711.69	$.....	$329.24
Field Service			
Field Staff			
Salary, travel, and other expenses			
1950–1952 (IH 49038, 50122, RF 51042, 51198)	859,844.19	.....	730,092.48
1953 (RF 52176)	.....	728,258.00	.....
Miscellaneous			
Director's Fund for Miscellaneous Expenses (IH 48004)	3,168.83	.....	.....
Exchange Fund (IH 33077)	14,161.66	.....	.....
Revolving Fund to provide working capital (RF 29093)	200,000.00	.....	.....
Rockefeller Institute for Medical Research, New York			
General expense of administration and operation (RF 51200, 52178)	50,000.00	50,000.00	50,000.00
University of Ceylon			
Department of Physiology and Pharmacology of the Medical College. Field studies in social medicine (GA 5007)	150.00	.....	*Cr.* 484.57
Department of Sociology. Sociological studies (GA 5006)	150.00	.....	.....
Total — Medicine and Public Health	$7,323,305.28	$3,599,698.00	$3,534,653.45

NATURAL SCIENCES AND AGRICULTURE

Experimental Biology

Amherst College, Massachusetts			
Research in biology (RF 51110)	$47,700.00	$.....	$15,150.00
Auckland University College, University of New Zealand			
Equipment for investigations on the plant products of New Zealand (RF 49124)	396.43	.....	323.56
California Institute of Technology, Pasadena			
Research programs in biology and chemistry (RF 48030)	378,554.83	.....	75,059.67
Carlsberg Foundation, Copenhagen, Denmark			
Research in biochemistry (RF 46107, 51157)	38,917.66	.....	8,683.29
Centre National de la Recherche Scientifique, Paris, France			
Scientific equipment for the Institute of Genetics at Gif (RF 50034)	54,000.00	.....	.....
Columbia University, New York			
Cost of publishing a *Bibliography of the Research in Tissue Culture, 1900–1950* (RF 52161)	.....	20,000.00	10,000.00
Research on enzymes in Department of Medicine, College of Physicians and Surgeons (RF 50043, 52040)	3,000.00	20,000.00	6,250.00
Research in immunochemistry (RF 51018)	42,000.00	.....	13,000.00
Research in genetics and experimental zoology (RF 48076, 51069)	106,023.90	.....	45,750.00
Research in Department of Biochemistry at the College of Physicians and Surgeons (RF 50078, 51006, 51186, 52104)	48,600.00	111,250.00	25,323.16
Connecticut Agricultural Experiment Station, New Haven			
Research in genetics (RF 48018)	5,436.46	.....	.....
Cornell University, Ithaca, New York			
Research in enzyme chemistry (RF 49082)	20,404.00	.....	6,293.28
To assist in establishing an electron microscope laboratory (RF 49069)	14,500.62	.....	5,500.62
Support of the Maize Genetics Cooperation Project (RF 51133)	1,900.00	.....	1,714.36

	Appropriations Prior Years	Appropriations 1952	1952 Payments
Natural Sciences and Agriculture — *Continued*			
Experimental Biology — Continued			
Duke University, Durham, North Carolina			
Research on physical biochemistry of proteins (RF 49070)	$97,995.98	$.....	$.....
Federal Technical Institute, Zurich, Switzerland			
Laboratory of Organic Chemistry. Research on constitution and synthesis of physiologically active compounds (RF 46099)	34,771.63	.....	.....
Research on chemistry of physiologically important compounds (RF 51058)	48,000.00	.....	20,257.30
Research in electron microscopy (RF 52203)	.....	12,000.00	.....
Gordon Research Conferences of the American Association for the Advancement of Science			
Expenses of foreign scientists at conferences (RF 52018)	.....	25,000.00	8,000.00
Harvard University, Cambridge, Massachusetts			
Basic studies in chemotherapy (RF 51134)	15,000.00	.....	14,960.83
Research in Medical School on problems of tissue structure (RF 51052)	63,554.76	.....	14,988.87
Research in enzyme chemistry (RF 50020)	12,217.60	.....	4,767.39
Research in biophysical chemistry in Department of Chemistry (RF 51013)	8,200.00	.....	2,000.00
Research on the biochemistry of vision (RF 52068)	.....	26,000.00	12,155.25
Research on biological and medical importance of trace elements (RF 51214)	100,000.00	.....	100,000.00
Haskins Laboratories, New York			
Research in protozoological chemistry (RF 50110, 52145)	2,500.00	20,000.00	7,500.00
Indiana University, Bloomington			
Research in genetics (RF 51051)	200,000.00	.....	40,000.00
Iowa State College, Ames			
Research in physiological genetics (RF 49028)	6,000.00	.....	3,000.00
Research in protein chemistry (RF 51028)	8,000.00	.....	2,000.00

Johns Hopkins University, Baltimore, Maryland			
Biochemical research (RF 50105)	$14,625.00	$.....	$10,000.00
Karolinska Institute, Stockholm, Sweden			
Anatomical Institute. Research equipment (RF 50113)	904.11	.....	577.62
Institute of Chemistry			
Research in biochemistry (RF 47100)	12,993.69	.....	1,983.39
Development of a section of morphology and cytology (RF 52166)	.....	5,000.00	.....
Department of Physical Cell Research. Equipment for biophysics research (RF 52165)	.....	12,000.00	2,500.00
Institute for Cell Research. Research (RF 49030)	5,063.19	.....	4,837.50
Medical Nobel Institute, Department of Biochemistry. Research (RF 50017)	17,584.02	.....	7,936.20
Marine Biological Laboratory, Woods Hole, Massachusetts			
Modernization of laboratory building and general support (RF 48131, 51056)	60,000.00	.....	42,500.00
Massachusetts General Hospital, Boston			
Research in enzyme chemistry (RF 52003)	.....	70,000.00	8,150.00
Massachusetts Institute of Technology, Cambridge			
Research in biology (RF 47039, 52184)	49,645.27	500,000.00	29,645.27
Research in the physical chemistry of protein solutions (RF 45107, 52157)	23,868.40	40,000.00	10,943.41
Research in X-ray crystallography (RF 51030)	6,900.00	.....	4,425.11
Ministry of Public Health, Montevideo, Uruguay			
Equipment and expenses of the Research Institute of Biological Sciences (RF 49008, 52011)	5,492.60	60,000.00	3,417.56
Montreal General Hospital, Quebec, Canada			
Biochemical research (RF 50046)	19,174.79	.....	18,061.42
National University of Mexico, Mexico, D. F.			
Institute of Chemistry. Equipment and supplies (RF 52189)	.....	50,000.00	.....

	Appropriations Prior Years	Appropriations 1952	1952 Payments
Natural Sciences and Agriculture — *Continued*			
Experimental Biology — Continued			
National Research Council, Washington, D. C.			
United States National Committee of the International Union of Crystallography. Publication program. (RF 50166)	$7,000.00	$.....	$3,500.00
Support of American Institute of Biological Sciences (RF 51117)	31,250.00	.....	15,000.00
Support of program of Committee on Developmental Biology (RF 51123)	25,000.00	.....	17,500.00
Northwestern University, Evanston, Illinois			
Research in the physical chemistry of proteins (RF 49058, 52066)	5,232.80	28,500.00	9,600.00
Pennsylvania State College, State College			
Biophysical research (RF 51124)	16,496.00	.....	9,144.00
Polytechnic Institute of Brooklyn, New York			
Research on protein structure (RF 50069, 51180, 52083)	135,145.00	32,500.00	53,895.00
Princeton University, New Jersey			
Research in genetics (RF 51136)	12,500.00	.....	2,500.00
Purdue University, Lafayette, Indiana			
Research in genetics (RF 49104, 52038)	2,500.00	22,500.00	6,191.07
Smith College, Northampton, Massachusetts			
Work in genetics (RF 51032, 52131)	4,500.00	9,000.00	9,000.00
Society for Experimental Biology, London, England			
Expenses of American delegates to annual conferences on biological subjects (RF 52043)	.....	10,000.00	1,000.00
Stanford University, Palo Alto, California			
Biochemical research (RF 51076)	25,000.00	.....	10,000.00
Research in biochemistry of nucleic acids (RF 51077)	30,000.00	.....	12,450.00
Research in biochemical genetics (RF 49057)	11,920.78	.....	9,556.21
Research in physical biochemistry (RF 51102)	6,500.00	.....	4,079.05
Tufts College, Medford, Massachusetts			
Program on nucleic acid chemistry (RF 51021)	20,000.00	.....	5,000.00

University College, National University of Ireland, Dublin			
Research in biochemistry in Department of Biochemistry and Pharmacology (RF 51029)	$5,972.38	$.....	$3,642.51
University of Aarhus, Denmark			
Research in biochemistry (RF 52148)	.....	10,000.00	.....
University of Alabama, University			
Program on glycoproteins (RF 51012)	6,745.00	.....	3,152.04
University of Amsterdam, Netherlands			
Research on tissues in Laboratory of Histology (RF 50095)	1,500.00	.....	1,482.00
University of Bern, Switzerland			
Theodor Kocher Institute. Equipment and assistance to foreign guests (RF 50074)	12,149.60	.....	7,674.70
University of Birmingham, England			
Research in biochemistry (RF 51137)	13,500.00	.....	3,978.91
University of Brazil, Rio de Janeiro			
Institute of Biophysics. Research (RF 49020, 52012)	1,573.65	33,000.00	22,601.52
University of Brussels, Belgium			
Equipment for research in biochemical embryology (RF 50096)	3,143.31	.....	2,735.54
University of California, Berkeley			
Equipment for biochemistry in Virus Laboratory (RF 52114)	.....	50,000.00	50,000.00
Research in biochemistry (RF 49059, 51078, 52044)	22,193.73	15,000.00	10,020.00
Research in the comparative biochemistry of marine organisms (RF 49009)	10,443.99	.....	6,990.54
Research on the biochemistry of marine microorganisms (RF 52059)	.....	35,100.00	5,850.00
University of Cambridge, England			
Cavendish Laboratory			
X-ray crystallography research equipment (RF 50114)	710.49	.....	338.70
Research in X-ray crystallography (RF 52132)	.....	1,800.00	838.50
Molteno Institute of Biology and Parasitology			
Research in cell physiology (RF 47101)	10,182.25	.....	96.68
Equipment for research in biochemistry (RF 51138)	12,139.22	.....	9,745.98

	Appropriations Prior Years	Appropriations 1952	1952 Payments
Natural Sciences and Agriculture — *Continued*			
Experimental Biology — Continued			
University of Cambridge, England — *Continued*			
Research on biologically important materials (RF 51112)	$82,500.00	$.....	$19,897.39
University Chemical Laboratory. Research equipment and supplies (RF 50112)	3,488.01	.....	341.94
University of Chicago, Illinois			
Research in animal ecology (RF 50026)	6,000.00	.....	.....
Research in experimental ecology (RF 50094)	5,370.00	.....	3,948.33
University of Copenhagen, Denmark			
Research on the biological uses of isotopes (RF 51158)	32,000.00	.....	12,750.00
Research in biochemistry, physiology, embryology, and genetics (RF 49029)	4,928.46	.....	4,928.46
Research in biochemistry (RF 52045)	.....	9,000.00	3,000.00
Research in physiology in the Institute of Neurophysiology (RF 52133)	.....	15,000.00	2,169.22
Conferences of European scientists interested in problems of microbial genetics (RF 50115)	2,500.00	.....	2,500.00
University of Edinburgh, Scotland			
Department of Animal Genetics. Establishment of studentships for young scientists (RF 50116)	2,899.06	.....	1,400.00
Department of Chemistry. Equipment (RF 50106, 51033)	2,099.54	.....	1,948.42
University of Geneva, Switzerland			
Research in organic chemistry (RF 50081)	8,092.00	.....	4,659.00
University of Graz, Austria			
Research in zoology (RF 49095)	3,593.82	.....	3,250.00
University of London, England			
Birkbeck College. Equipment for X-ray analysis (RF 48078)	11,785.29	.....	2,363.30

King's College. Research in biophysics (RF 50065)	$ 27,370.08	$.....	$9,150.20
Imperial College of Science and Technology. Research on the organic chemistry of biologically important molecules (RF 52046)	.....	15,000.00	1,460.81
University of Lund, Sweden			
Research in genetics (RF 51189)	7,500.00	.....	7,500.00
University of Manchester, England			
Equipment for Department of Organic Chemistry (RF 50058)	2,619.42	.....	.....
University of Munich, Germany			
Research in experimental zoology (RF 52062)	.....	25,000.00	6,000.00
University of Oslo, Norway			
Research in plant physiology and X-ray crystallography (RF 51190)	15,000.00	.....	6,974.60
University of Oxford, England			
Department of Human Anatomy. Development of new methods in microscopy and microspectroscopy and their application to biological problems (RF 52167)	.....	12,000.00	.....
Dyson Perrins Laboratory of Organic Chemistry			
Research in organic chemistry (RF 51155)	26,500.00	.....	6,960.94
Equipment for research (RF 49122)	396.22	.....	143.40
Chemical Crystallography Laboratory. Research in X-ray crystallography (RF 49123, RF 52149)	2,558.43	5,400.00	2,376.44
University of Paris, France			
Research in biochemistry in Laboratory of Biological Chemistry (RF 51187)	25,000.00	.....	11,890.23
University of Pittsburgh, Pennsylvania			
Research on the chemistry of fats and proteins (RF 49019, 52065)	2,500.00	19,000.00	5,667.50
Support of a project in pulmonary physiology (RF 52019)	.....	19,750.00	9,875.00
University of Rochester, New York			
Microphotometric studies of biological tissues (RF 49114)	18,762.21	.....	18,762.21

	Appropriations Prior Years	Appropriations 1952	1952 Payments
Natural Sciences and Agriculture — *Continued*			
Experimental Biology — Continued			
University of São Paulo, Brazil			
Faculty of Medicine			
Research in Laboratory of Histology and Embryology (RF 51103)	$13,387.60	$.....	$11,099.04
University Radiochemistry Laboratory. Work with radioactive isotopes in experimental biology and medicine (RF 50146)	7,614.25	.....	1,829.74
Faculty of Philosophy. Equipment for research in Department of Physics (RF 45061)	5,796.35	.....	2,336.88
University of Sheffield, England			
Research in biochemistry (RF 51114)	33,259.44	.....	14,483.17
University of Stockholm, Sweden			
Research in biochemistry (RF 50011)	2,445.96	.....	2,356.65
Research in radiobiology (RF 50027)	1,334.21	.....	1,199.51
University of Tennessee, Knoxville			
Research in biochemistry (RF 50012)	23.08	.....	*Cr.* 281.56
University of Texas, Austin			
Research in genetics (RF 51089)	45,000.00	.....	15,000.00
Research in genetics of drosophila (RF 49027)	4,537.56	.....	4,537.56
University of Upsala, Sweden			
Research in Institute of Physiology (RF 49126)	3,700.00	.....	2,013.24
Equipment for research on proteins and polysaccharides (RF 49142)	30,783.69	.....	22,721.37
Research in biochemistry (RF 52141)	.....	50,000.00	4,982.63
University of Utah, Salt Lake City			
Research in enzyme chemistry (RF 52090)	.....	30,000.00	6,000.00

University of Utrecht, Netherlands			
Research in biophysics and biochemistry (RF 49113)	$10,000.57	$.....	$.....
University of Virginia, Charlottesville			
Research in thermodynamics of enzyme action in Department of Medicine (RF 50008)	8,000.00	.....	8,000.00
University of Washington, Seattle			
Research in physical biochemistry of proteins (RF 51091)	18,000.00	.....	12,000.00
University of Wisconsin, Madison			
Research in biochemistry of symbiotic nitrogen fixation (RF 46118, 51171)	29,468.32	.....	.....
Research in genetics (RF 51191)	8,000.00	.....	8,000.00
Research in metabolism of plant tissues (RF 51009)	41,250.00	.....	8,420.00
Research in physical chemistry of proteins (RF 50059)	7,500.00	.....	2,148.00
Research in cytogenetics (RF 50048)	15,000.00	.....	9,993.89
Scientific equipment for the Enzyme Institute (RF 48031)	25,000.00	.....	16,747.55
Research in enzyme chemistry (RF 50047, 52064)	15,000.00	33,000.00	13,121.14
Washington University, St. Louis, Missouri			
Research in experimental embryology (RF 50037)	15,600.00	.....	10,169.89
Biochemical research (RF 49117)	34,128.38	.....	11,457.63
Woods Hole Oceanographic Institution, Massachusetts			
Support of two major appointments in marine biology (RF 52078)	.....	75,000.00	12,500.00
Worcester Foundation for Experimental Biology, Massachusetts			
Research on the physiology of mammalian eggs and sperm (RF 50082)	15,000.00	.....	4,050.00
Yale University, New Haven, Connecticut			
Biochemical research (RF 51168)	73,000.00	.....	15,250.00
Research on proteolytic enzymes (RF 48133)	18.15	.....	*Cr.* 44.80
Research in Department of Botany (RF 48032)	15,477.83	.....	10,000.00
Research in the physical chemistry of proteins (RF 52029)	.....	100,000.00	35,000.00
Zoological Station of Naples, Italy			
General expenses and equipment (RF 51059)	19,266.87	.....	3,900.58

	Appropriations Prior Years	Appropriations 1952	1952 Payments
Natural Sciences and Agriculture — *Continued*			
Agriculture			
Brazil			
Rural University of the State of Minas Gerais			
Equipment and supplies for Schools of Agriculture and Veterinary Medicine (RF 52016)	$.....	$30,000.00	$.....
University of São Paulo			
Equipment and supplies for work in Faculty of Veterinary Medicine (RF 51163)	14,500.00	.....	9,207.91
Biological Institute, São Paulo (RF 50149)	14,148.85	.....	9,038.89
Institute of Agronomy, Campinas, State of São Paulo			
Research on plant viruses (RF 49156)	4,641.90	.....	3,839.93
Work in microbiology and irrigation (RF 50148)	8,584.05	.....	4,908.64
School of Agriculture, Piracicaba (RF 50147)	19,495.29	.....	3,994.26
Chile			
Bacteriological Institute of Chile, Santiago			
Equipment and supplies for work in animal viruses (RF 52007)	.....	40,000.00	32,663.65
Ministry of Agriculture, Santiago			
Cooperative project to establish on full-time salaries Chilean agricultural scientists engaged in food production programs (RF 49155)	12,000.00	.....	.....
Colombia			
Tibaytatá Agricultural Experiment Station (El Rubi), Bogotá			
Advice and service in connection with its development (RF 52126)	.....	25,000.00	2,276.17
Collaborative Operating Program in Agriculture (RF 49127, 50138, 51027, 51045, 51206, 52175, 52181)	142,076.59	65,250.00	88,597.82

Latin American Agricultural Information Center			
Establishment and support (RF 52109)	$.....	$40,000.00	$.....
Ministry of Agriculture of Colombia			
Experimental greenhouse (RF 51101)	5,873.38	.....	1,452.21
National University of Colombia			
Faculties of Agronomy at Medellín and Palmira			
Toward cost of student dormitory at each of these agricultural colleges (RF 50102)	50,000.00	.....	.....
Faculty of Agronomy, Medellín			
Equipment (RF 47117)	13,497.41	.....	11,493.64
To send outstanding graduating class students for specialized training with The Rockefeller Foundation's agricultural staff in Mexico (RF 48072, 50079)	10,243.14	.....	1,612.71
Teaching and research facilities, study trips of staff members, and to assist in bringing foreign visiting professors to the faculty (RF 49031)	4,657.70	.....	413.59
Faculty of Agronomy, Palmira			
Equipment (RF 47118)	67.47	.....	.....
Equipment for a second scientific laboratory building (RF 51084)	40,000.00	.....	37,455.09
Teaching and research facilities, study trips of staff members, and to assist in bringing foreign professors to the faculty (RF 51085)	13,811.20	.....	2,729.42
Costa Rica			
Inter-American Institute of Agricultural Sciences, Turrialba			
Strengthening the library resources and making possible the development of a scientific communication program (RF 49077)	25,483.06	.....	4,500.00
Development of a tropical dairy cattle project (RF 50057)	5,600.00	.....	3,800.00

	Appropriations Prior Years	Appropriations 1952	1952 Payments
Natural Sciences and Agriculture — *Continued*			
Agriculture — *Continued*			
Ecuador			
Ministry of Economy			
Equipment and supplies for use in forestation and reforestation programs (RF 52021)	$.....	$15,000.00	$9,450.93
Honduras			
Pan American Agricultural School, Tegucigalpa			
Scholarships for practical experience with Foundation's agricultural program in Mexico, or study in the United States (RF 49157)	4,000.00	.....	4,000.00
India			
Allahabad Agricultural Institute Board of Founders, Inc.			
Outright grant for capital purposes in India, principally for purchase of scientific equipment (RF 52052)	.....	150,000.00	150,000.00
Mexico			
Inter-American Symposium on Plant Breeding, Mexico, D. F.			
Expenses (RF 49100)	114.43	.....	.....
Inter-American Symposium on Plant Pests and Diseases, Mexico, D. F.			
Expenses (RF 50028)	1,867.81	.....	66.98
Inter-American Symposium on Plant Breeding, Pests, and Diseases, Mexico, D. F.			
To be held under the joint auspices of Brazilian agencies and the Office of Special Studies, Secretariat of Agriculture and Animal Industry of Mexico, and for expenses of the continuing joint committee (RF 51135)	15,000.00	.....	14,977.87
Latin American scholarships (RF 50151, 51120)	95,899.38	.....	9,656.08

Mexican Agricultural Program			
Additional greenhouse and farm building facilities at La Piedad, Guanajuato (RF 52180)	$.....	$25,000.00	$.....
General expenses (RF 49136, 50137, 51044, 51193, 51205, 52174, 52179)	455,126.90	157,400.00	301,257.46
Program to improve agricultural education in Mexico (RF 52108)	.....	83,750.00	.....
Antonio Narro College of Agriculture, Saltillo, Coahuila	.....	40,000.00	15,416.25
Technological Institute, School of Agriculture, Monterrey	.....	26,250.00	8,132.76
Expansion of staff in Mexico for training purposes (RF 51207)	60,000.00	.....	13,492.43
Research, demonstration, and extension program, State of Mexico (RF 51210)	100,000.00	.....	39,834.27
Mexico and Colombia			
Field staff			
Division of Natural Sciences and Agriculture. 1953 (RF 52182)	.....	343,700.00	.....
Scientific aides			
Temporary (RF 51208)	40,000.00	.....	3,036.47
Special temporary (RF 51209)	30,000.00	.....	2,411.23
Peru			
National School of Agriculture, La Molina			
Equipment, supplies, and library materials for a college of advanced and postgraduate studies (RF 52139)	.....	30,000.00	.....
University of San Marcos, Lima			
Faculty of Veterinary Medicine. Equipment and supplies (RF 50150)	46,524.60	.....	1,701.64
Sweden			
University of Lund			
Institute of Genetics. Research in genetics and plant breeding (RF 52142)	.....	40,000.00	.....
United States			
Conservation Foundation, New York			
Soil erosion survey of North and South America (RF 51229)	10,000.00	.....	10,000.00

	Appropriations Prior Years	Appropriations 1952	1952 Payments
Natural Sciences and Agriculture — *Continued*			
Agriculture — *Continued*			
United States — *Continued*			
University of California, Berkeley			
Citrus Experiment Station, Riverside. Research on the mode of action of insecticides (RF 52033)	$.....	$15,000.00	$3,750.00
University of Florida, Gainesville			
Expenses of a counselor to Latin American students enrolled in agricultural courses (RF 52035)	.....	30,000.00	5,000.00
University of Illinois, Urbana			
Research on the mode of action of insecticides (RF 50093, 52032)	6,000.00	28,000.00	12,269.60
University of North Carolina, Chapel Hill			
Research in mathematical and experimental genetics under the auspices of Institute of Statistics (RF 51125, 52186)	12,500.00	170,000.00	12,500.00
Fellowships and Grants in Aid			
Fellowships			
Administered by The Rockefeller Foundation (RF 47135, 48139, 49145, 50154, 51221, 52195)	459,108.21	300,000.00	191,866.60
National Research Council, Washington, D. C. (RF 50054, 51150)	195,245.86	.....	64,385.08
Grants in Aid			
Administered by The Rockefeller Foundation (RF 47058, 47139, 48143, 49149, 50159, 51225, 52199)	693,552.55	450,000.00	269,391.38
Other Subjects			
American Academy of Arts and Sciences, Boston, Massachusetts			
Support of activities aimed at making more sound and effective the interrelationships between the various branches of the natural sciences, the social sciences, and the humanities (RF 49085, 52020)	1,500.00	15,000.00	6,500.00

California Institute of Technology, Pasadena			
International aspects of a program of meteorite studies (RF 52069)	$11,869.20	$.....	$11,869.20
Centre National de la Recherche Scientifique, Paris, France			
Travel of non-French delegates to conferences of scientists (RF 46049, 52058)	13,633.10	40,000.00	10,754.25
China Medical Board, Inc., New York			
Peiping Union Medical College, China. Human paleontological research in Asia (RF 45024)	17,136.99	.....	33.86
Conservation Foundation, New York			
Toward administrative budget, for Spanish and Portuguese sound tracks for educational films on conservation, for a preliminary survey of possibilities of research in marine resources, and for research in water resources (RF 49056, 51001)	75,060.11	.....	37,747.37
Harvard University, Cambridge, Massachusetts			
Research and publication of research in the history of science (RF 47013)	2,504.63	.....	2,504.63
Institute of Biology and Technological Research, Curitiba, Brazil			
Equipment for a new biological laboratory building (RF 52009)	.....	40,000.00	.....
Princeton University, New Jersey			
Research in social physics (RF 50167)	10,000.00	.....	5,000.00
Royal Institution of Great Britain, London			
Davy Faraday Research Laboratory. Equipment and supplies for the modernization and expansion of workshop and instrument-making facilities (RF 50111)	3,000.00	.....	3,000.00
University of Brazil, Rio de Janeiro			
Full-time professorships in the Faculty of Philosophy (RF 49154)	4,892.00	.....	3,415.50

	Appropriations Prior Years	Appropriations 1952	1952 Payments
Natural Sciences and Agriculture — *Continued*			
Other Subjects — Continued			
University of California, Berkeley			
White Mountain Research Station. General support (RF 52117)	$.....	$36,000.00	$6,000.00
University of Chicago, Illinois			
International aspects of a program of meteorite studies (RF 49078)	3,940.92	.....	3,940.92
Advanced training in applied statistics (RF 51087) (Joint project with Social Sciences)	70,000.00	.....	10,000.00
University of Iceland, Reykjavik			
Building and equipping Institute of Experimental Pathology (RF 45048, 48110)	28,372.60	.....	495.18
University of São Paulo, Brazil			
Faculty of Philosophy, Sciences, and Letters (RF 50145)			
To strengthen the Departments of Genetics, General Physiology, Biochemistry, Botany, Zoology, Chemistry, Mineralogy, and Physical Chemistry	28,374.07	.....	7,973.96
Marine Biological Laboratory			
Equipment and supplies	10,000.00	.....	2,441.13
University Research Fund			
Equipment and consumable supplies (RF 47059)	2,041.99	.....	.....
Total — Natural Sciences	$5,690,223.33	$3,862,150.00	$2,776,384.47

Social Sciences			
American Bar Association Endowment, New York			
For use by the American Bar Association Commission on Organized Crime for drafting model statutes designed to deal more effectively with organized crime in the United States (RF 51212)	$25,000.00	$.....	$25,000.00
American Economic Association, New York			
Study of graduate training in economics (RF 51092)	10,666.67	.....	10,666.67
American Institute of Pacific Relations, Inc., New York			
General expenses (RF 50091)	15,000.00	.....	15,000.00
American Law Institute, Philadelphia, Pennsylvania			
Study of development and application of ethical concepts of the Lord Chancellors and the Courts of Equity (RF 49140)	7,125.00	.....	*Cr.* 8,957.29
Preparation of model criminal code with commentaries (RF 51213)	222,500.00	.....	44,500.00
American Museum of Natural History, New York			
Study of social change in the Admiralty Islands (RF 52143)	.....	26,000.00	9,450.00
American Psychological Association, New York			
Research connected with the development of a code of ethical practice for psychologists (RF 49012)	928.77	.....	924.80
Bennington College, Vermont			
Study of interest-group interaction in the political process (RF 51083)	22,583.50	.....	9,033.00
Brookings Institution, Washington, D. C.			
Research and education in the field of international relations (RF 50036, 50083, 52185)	90,000.00	225,000.00	60,000.00
Canadian Institute of International Affairs, Toronto			
General budget (RF 46036)	3,965.56	.....	.....
Canadian Social Science Research Council, Montreal			
Toward expenses of its program (RF 49098, 51079)	14,387.01	.....	10,924.38

	Appropriations Prior Years	Appropriations 1952	1952 Payments
Social Sciences — *Continued*			
Canadian Social Science Research Council, Montreal — *Continued*			
Program of research and publication, and for awards of fellowships and professorial leaves (RF 52112)	$.....	$176,000.00	$29,576.56
Toward costs of fellowships and professorial leaves (RF 50070, 51080)	25,015.70	.....	21,105.00
Columbia University, New York			
Development of a program of Far Eastern studies through the various social science departments (RF 48041)	65,547.95	.....	15,783.41
Program of the Institute for Urban Land Use and Housing Studies (RF 51003)	33,000.00	.....	22,000.00
Program of training in the social sciences (RF 51170)	60,000.00	.....	.....
School of International Affairs. General support of the Russian Institute (RF 45034, 50133)	360,683.73	.....	112,500.00
Columbia University Press, New York			
Toward publication costs of book, *On Social Survival* (RF 52134)	.....	2,200.00	.....
Committee on Research in Economic History, Inc., Cambridge, Massachusetts			
Research and training in economic history (RF 50103)	25,000.00	.....	17,500.00
Cornell University, Ithaca, New York			
Program of research on community action and intergroup relations (RF 50104)	61,530.00	.....	10,890.12
Study of the relation of civil rights to the control of subversive activities in the United States (RF 51142, 52098)	3,009.25	3,500.00	6,500.00
Council on Foreign Relations, Inc., New York			
History of foreign relations of the United States during World War II (RF 46002)	1,175.22	.....	.....

Study of the political implications of the economic development of industrialized areas (RF 51149)	$25,000.00	$.....	$18,500.00
Two research and publication projects in the field of international relations (RF 52092)	.....	22,000.00	15,000.00
Crete Survey			
Expenses of a survey in Crete as a means of exploring ways of raising the standard of living in underdeveloped countries (RF 48102)	41.47	.....	*Cr.* 12.00
Dortmund Center for Social Science Research, Germany			
Costs of a study of social relations in a steel mill (RF 52159)	.....	25,500.00	.....
Duke University, Durham, North Carolina			
Studies of differences in state per capita incomes (RF 51072)	35,554.00	.....	4,352.50
École Pratique des Hautes Études, Sixth Section, Paris, France			
For expenses of seminars and program of research in economic history (RF 52136)	.....	13,500.00	2,586.21
Economic Commission for Europe, United Nations, Geneva, Switzerland			
Study of long-run tendencies in the European economy (RF 51128, 52150)	23,725.00	5,000.00	27,178.50
Fellowships			
Administered by The Rockefeller Foundation (RF 48140, 49146, 50155, 51160, 51222, 52196)	328,593.13	175,000.00	124,757.02
Australian-New Zealand Social Science Fellowship Committee, Melbourne, Australia			
Administrative expenses (RF 52168)	.....	2,250.00	.....
Columbia University, New York			
School of International Affairs. Special fellowships in the Russian Institute (RF 47045)	16,391.65	.....	14,580.16
Economic Commission for Europe, United Nations, Geneva, Switzerland			
In-service training scholarships (RF 51139, 52120)	9,000.00	29,000.00	6,000.00
Institut de Science Économique Appliquée, Paris, France			
In-service training scholarships (RF 51035)	8,137.93	.....	5,464.73
Social Science Research Council, New York (RF 48006, 51054)	225,700.00	.....	105,260.70

	Appropriations Prior Years	Appropriations 1952	1952 Payments
Social Sciences — *Continued*			
Gokhale Institute of Politics and Economics, Poona, India			
Economic and demographic research program (RF 51094)	$21,522.00	$.....	$1,583.25
Grants in Aid			
Administered by The Rockefeller Foundation (RF 46141, 47140, 48091, 48144, 49150, 50109, 50160, 51183, 51226, 52164, 52200)	439,055.87	300,000.00	253,340.23
Harvard University, Cambridge, Massachusetts			
Research Center in Entrepreneurial History			
For research (RF 49092, 51126, 52081)	10,185.45	150,000.00	24,941.78
Special grant-in-aid fund for salaries and/or expenses of visiting scholars (RF 51127)	5,500.00	.....	*Cr.* 30.00
Graduate School of Business Administration			
Support of research on profits and the functioning of the economy (RF 52063)	.....	68,875.00	13,739.00
Laboratory of Human Development			
Study of social and cultural factors in child development (RF 50051, 51173)	85,050.00	.....	31,300.00
Laboratory of Social Relations			
Study of comparative values in five cultures (RF 51175)	100,000.00	.....	17,323.50
Studies of motivated perception (RF 49073)	8,466.67	.....	4,422.48
Program of economic research (RF 47126, 51071)	152,820.08	.....	51,936.27
Studies of state election statistics (RF 51082)	41,487.50	.....	12,689.30
Haverford College, Pennsylvania			
Handbook of selected case studies of programs of social and technical assistance to underdeveloped countries (RF 51095)	5,545.00	.....	5,545.00
Institut de Science Économique Appliquée, Paris, France			
Research program (RF 49068)	4,252.87	.....	4,252.87
Research on the methodology of social accounting (RF 52091)	.....	26,250.00	5,028.74

Institute for Advanced Study, Princeton, New Jersey			
For assistance and compensation in a program of study and writing (RF 49064)	$12,975.70	$.....	$5,000.00
International African Institute, London, England			
Field studies of the Fulani-speaking peoples of West Africa (RF 51034)	6,900.00	.....	1,165.36
Johns Hopkins University, Baltimore, Maryland			
Salaries and travel expenses of European visiting professors in the Department of Political Economy (RF 51111)	31,250.00	.....	12,500.00
Study to measure and interpret trends and forces affecting the United States in its international relations (RF 47103)	850.95	.....	.....
Library of Congress, Washington, D. C.			
Preparation and publication of an *East European Accessions List* and expansion of *Monthly List of Russian Accessions* (RF 51164) (Joint project with Humanities)	4,350.00	.....	4,350.00
London School of Economics and Political Science, England			
Purchase of land for expansion of school plant (RF 31028)	8,153.32	.....	.....
Department of Sociological and Demographic Research. General expenses (RF 49115)	31,684.09	.....	6,482.78
Mayor's Advisory Committee for the Aged, New York			
Exploration of the problems of adjustment of the aged in New York City (RF 52204)	.....	10,000.00	.....
McGill University, Montreal, Canada			
Institute of International Air Law. Expenses of two European students during years 1952–53 and 1953–54 (RF 52047)	.....	12,000.00	6,000.00
Miami University, Oxford, Ohio			
Studies of population redistribution (RF 46080, 52028)	7,116.22	98,500.00	16,321.50
National Bureau of Economic Research, New York			
Endowment (RF 52057)	.....	2,000,000.00	2,000,000.00

	Appropriations Prior Years	Appropriations 1952	1952 Payments
Social Sciences — *Continued*			
National Bureau of Economic Research, New York — *Continued*			
General programs and special programs of research in finance and fiscal policy (RF 47120, 49141, 50134)	$1,320,000.00	$.....	$240,000.00
National Council of the Churches of Christ in the United States of America			
Studies of Department of the Church and Economic Life (RF 52054)	.....	125,000.00	17,500.00
National Foundation of Political Science, Paris, France			
Program in international relations (RF 51036)	82.49	.....	82.49
For acquisition of library materials in the social sciences (RF 52135)	.....	2,000.00	2,000.00
National Institute of Economic and Social Research of Great Britain, London			
General budget (RF 50075, 51181)	75,738.75	.....	54,997.34
Expenses of the International Association for Research in Income and Wealth (RF 50006)	14,000.00	.....	595.27
Pacific Council of the Institute of Pacific Relations, Honolulu, Hawaii			
Toward general expenses and research (RF 50092)	30,000.00	.....	30,000.00
Princeton University, New Jersey			
Office of Population Research of the School of Public and International Affairs (RF 48105)	90,496.14	.....	10,000.00
Institute of International Studies. General support (RF 51017)	200,000.00	.....	40,000.00
Royal Institute of International Affairs, London, England (Chatham House)			
History of the war and of the peace settlement (RF 47071, 52002)	19,118.04	69,000.00	14,165.11
Study of *The Theory of International Economic Policy* (RF 52026)	.....	4,960.00	4,635.61
Studies of British-American relations in cooperation with the Council on Foreign Relations (RF 52025)	.....	5,750.00	5,750.00
Research on the Middle East, the Soviet Union, and underdeveloped territories (RF 51062)	30,992.18	.....	13,967.77

Studies in international economic policy (RF 50013)	$43.32	$.....	$.....
Royal Statistical Society, London, England			
Library facilities and additional secretarial and editorial assistance (RF 50087)	15,140.92	.....	.....
Rutgers University, New Brunswick, New Jersey			
Study of the influence of group orientation on receptivity to communicated values (RF 51104)	7,000.00	.....	6,555.21
Social Science Research Council, New York			
Administrative budget (RF 51053)	100,000.00	.....	40,000.00
Conferences and planning (RF 49046, 51204)	162,500.00	.....	37,500.00
Grants in aid of research (RF 49047, 51055)	76,536.42	.....	27,000.00
Special staff in international relations (RF 49118)	7,504.40	.....	7,504.40
Support of *Current Digest of the Soviet Press* (RF 50018, 51218) (Joint project with Humanities)	51,723.60	.....	20,000.00
Study of "Economic Growth: The Problem and Its Setting" (RF 52105)	.....	35,000.00	.....
Preparation of a series of monographs based on the 1950 census (RF 52118)	.....	50,000.00	15,000.00
Stanford University, Palo Alto, California			
Food Research Institute			
International history of food and agriculture during World War II (RF 46041)	.85	.....	.....
Program of predoctoral training in agricultural economics research (RF 50086)	30,000.00	.....	9,183.30
Research program (RF 51060)	59,432.01	.....	21,098.35
Hoover Institute and Library on War, Revolution and Peace			
Completion of two documentary histories (RF 52048)	.....	12,500.00	12,500.00

	Appropriations Prior Years	Appropriations 1952	1952 Payments
Social Sciences — *Continued*			
State Historical Society of Colorado			
Study of the Western range cattle industry (1865–1895) (RF 52099)	$.....	$12,350.00	$.....
Swarthmore College, Pennsylvania			
Study of the Good Neighbor Policy of the United States (RF 52137)	.....	4,900.00	1,200.00
University of Alberta, Edmonton, Canada			
Research in local government problems (RF 51105)	1,000.00	.....	1,000.00
University of Basle, Switzerland			
Development of research and training in monetary and credit economics (RF 52060)	.....	200,000.00	20,000.00
University of British Columbia, Vancouver, Canada			
Development of a program in Slavic studies (RF 49080)	20,939.37	.....	9,715.94
University of California, Berkeley			
Institute of Industrial Relations. Studies of the impact of an aging population on American society (RF 49139)	103,234.35	.....	57,206.77
University of Cambridge, England			
History of English criminal law (RF 51096)	15,247.66	.....	1,743.75
Department of Applied Economics. Study of the social accounts of Cambridgeshire (RF 51177)	78,000.00	.....	12,944.67
University of Chicago, Illinois			
Toward the costs of the fourth volume of *History of Public Administration in the United States* (RF 52039)	.....	25,000.00	.....
Program of the Cowles Commission for Research in Economics (RF 48047)	30,000.00	.....	10,000.00
Program in education, training, and research in race relations (RF 47031)	19,788.38	.....	2,050.70
Research on low productivity in American agriculture (RF 51088)	40,000.00	.....	16,000.00

Expenses of a visiting professor to Nuffield College, Oxford (RF 52100)	$.....	$12,150.00	$12,150.00
University of Delaware, Newark			
Study of individual income tax returns in Delaware for years 1925 through 1936 (RF 51178)	25,600.00	.....	19,900.00
University of Florida, Gainesville			
Study of land tenure systems and land use patterns in certain countries in the Middle East (RF 51192)	4,545.50	.....	4,545.50
University of Manchester, England			
Faculty of Economic and Social Studies. Support of research (RF 51097, 52023)	22,500.00	12,000.00	12,794.40
University of Michigan, Ann Arbor			
Survey Research Center			
Program of methodological research in the field of human relations (RF 50019)	24,341.32	.....	17,174.33
Theoretical analysis of survey data relating to economic behavior (RF 52031)	.....	52,400.00	26,112.00
Analysis of data from an experimental study of the effect of differing patterns of supervision on employee productivity and morale (RF 52036)	.....	32,250.00	16,125.00
University of Minnesota, Minneapolis			
Industrial Relations Center. General expenses (RF 47021)	46.64	.....	*Cr.* 20.88
University of Missouri, Columbia			
Study of the rural church as a social institution in Missouri (RF 51216)	51,245.00	.....	16,425.00
University of Notre Dame, South Bend, Indiana			
Research in international relations (RF 52084)	.....	69,000.00	13,500.00
University of Oklahoma, Norman			
Experimental study of intergroup relations (RF 52115)	.....	38,000.00	14,000.00

	Appropriations Prior Years	Appropriations 1952	1952 Payments
Social Sciences — *Continued*			
University of Oslo, Norway			
Institute of Economics. Research program (RF 52138)	$.....	$10,000.00	$5,000.00
University of Oxford, England			
Nuffield College			
Additional research faculty in the social sciences (RF 46132)	121,374.12	.....	12,118.25
University of Pennsylvania, Philadelphia			
Studies on redistribution of population and economic growth in the United States (RF 52106)	.....	112,000.00	.....
University of Toronto, Canada			
Development of Slavic studies (RF 49054)	22,502.39	.....	9,000.00
University of Wisconsin, Madison			
Study of the law and the lumber industry in Wisconsin (RF 48051)	13,025.00	.....	4,537.50
Vanderbilt University, Nashville, Tennessee			
Institute of Research and Training in the Social Sciences			
Research in agricultural economics and in the organization of industry (RF 52077)	.....	112,000.00	.....
Yale University, New Haven, Connecticut			
Institute of International Studies. Research program (RF 49062)	10,950.00	.....	5,475.00
Studies of communication and attitude change (RF 51174)	127,501.00	.....	20,710.00
Total — Social Sciences	$5,718,577.11	$4,366,835.00	$4,185,399.31

HUMANITIES

Studies in Language and Foreign Cultures

American Board of Commissioners for Foreign Missions, Boston, Massachusetts			
Studies in intellectual and cultural movements in Turkey (RF 49138)	$14,398.51	$.....	$7,846.75
American Council of Learned Societies, Washington, D. C.			
Preparing materials for Slavic studies in the United States (RF 49053)	7,811.90	.....	7,811.90
Procurement and reproduction of materials on Slavic subjects (RF 47127)	10,000.00	.....	10,000.00
Program of translations into English of modern materials in Near Eastern languages (RF 48125)	64,308.01	.....	48,510.77
Preparation of a revised edition of *Encyclopedia of Islam* under auspices of the Royal Netherlands Academy of Sciences (RF 52022)	.....	15,000.00	3,000.00
American University of Beirut, Lebanon			
Interpretative studies of the modern Arab Middle East (RF 49071)	24,406.38	.....	15,751.63
Translation from Western languages into Arabic of books in the humanities (RF 52101)	.....	13,000.00	3,050.00
Austrian College Society, Vienna			
Institute for Current European Cultural Research. Research program (RF 52188)	.....	40,000.00	.....
Columbia University, New York			
Department of Slavic Languages. Development of teaching materials and methods of research (RF 47047)	6,504.13	.....	6,504.13
Conference on interpretation of Arab tradition, thought, and outlook, to be held in Near East (RF 51005)	20,000.00	.....	199.60
Cornell University, Ithaca, New York			
Southeast Asian studies (RF 50139)	271,100.00	.....	53,582.19

	Appropriations Prior Years	Appropriations 1952	1952 Payments
Humanities — *Continued*			
Studies in Language and Foreign Cultures — Continued			
Harvard University, Cambridge, Massachusetts			
Preparation of a descriptive analysis of the contemporary Russian language (RF 50040)	$39,970.61	$.....	$14,801.03
Support in connection with the publication, *Confluence, an International Forum* (RF 52124)	.....	26,000.00	.....
Indiana University, Bloomington			
Development of East European studies (RF 47002)	5,600.00	.....	5,600.00
Korean Language Research Society, Pusan			
Publication of its dictionary of the Korean language (RF 52191)	.....	33,000.00	.....
McGill University, Montreal, Canada			
Expenses of an Institute of Islamic Studies (RF 51108)	214,800.00	.....	29,922.92
Modern Language Association of America, New York			
Survey of foreign language education in the United States (RF 52116)	.....	120,000.00	18,500.00
National Institute of Anthropology and History, Mexico, D.F.			
Support of two South American fellowships (RF 48034, 52049)	4,581.12	3,415.00	6,230.64
Occidental College, Los Angeles, California			
Developing humanistic studies in the Southwest area of the United States and in northern Mexico (RF 49024)	12,750.00	.....	8,546.76
Pomona College, Claremont, California			
Development of Far Eastern and Slavic studies (RF 44131)	2,400.00	.....	2,400.00
Princeton University, New Jersey			
Development of Near Eastern studies (RF 46066, 52005) (Joint project with Social Sciences)	4,750.00	100,000.00	14,150.00
St. Vladimir's Orthodox Theological Seminary and Academy, New York			
Support of research and writing by members of its faculty (RF 50031)	5,250.00	.....	5,232.24

Stanford University, Palo Alto, California			
Development of Far Eastern and Slavic studies (RF 44130)	$5,908.96	$.....	$5,108.96
University of British Columbia, Vancouver, Canada			
Development of a program in Slavic studies (RF 49080)	20,939.37	.....	9,715.95
University of California, Berkeley			
Development of Slavic and Far Eastern studies (RF 44129)	2,336.84	.....	2,336.84
Development of personnel in Slavic studies (RF 47128)	11,578.33	.....	1,035.84
University of Durham, England			
Study of materials available for an understanding of modern Near Eastern cultures (RF 51176)	29,700.00	.....	10,074.91
University of Michigan, Ann Arbor			
Cross-disciplinary studies in the theory of language and symbolism (RF 50140)	29,600.00	.....	27,078.78
University of Pennsylvania, Philadelphia			
Work in modern Indian languages and literatures (RF 47129)	12,447.81	.....	11,888.04
University of the Philippines, Manila			
Library development and research in Philippine history (RF 48111)	3,424.99	.....	3,398.01
University of Toronto, Canada			
Development of Slavic studies (RF 49054)	22,502.38	.....	9,000.00
University of Washington, Seattle			
Far Eastern Institute. Research on the Far East (RF 47035)	22,254.13	.....	19,254.13
Wayne University, Detroit, Michigan			
Preparation of a frequency list of Russian words (RF 49137)	10,310.07	.....	10,310.07
American Studies			
Abraham Lincoln Association, Springfield, Illinois			
Preparing annotated edition of writings of Abraham Lincoln (RF 51143)	6,000.00	.....	6,000.00
American Studies Seminar in Japan			
Seminar in 1952 under joint auspices of Kyoto University, Doshisha University, and the University of Illinois (RF 52015) (Joint project with Social Sciences)	.....	22,500.00	22,500.00

	Appropriations Prior Years	Appropriations 1952	1952 Payments
Humanities — *Continued*			
American Studies — Continued			
Columbia University, New York			
Preparation of a biography of Booker T. Washington (RF 51230)	$15,000.00	$.....	$9,500.00
Commission on History of Pan American Institute of Geography and History, Mexico, D.F.			
Work on history of the Americas (RF 51118)	20,560.00	.....	9,440.00
Program of research in history of ideas (RF 51165)	15,000.00	.....	5,000.00
Henry E. Huntington Library and Art Gallery, San Marino, California			
Program of regional studies (RF 50002)	15,000.00	.....	6,500.00
Library of Congress, Washington, D. C.			
American studies (RF 43095)	19,000.00	.....	.....
McGill University, Montreal, Canada			
Studies in the public and private life of W. L. Mackenzie King (RF 49060)	55,000.00	.....	28,000.00
Michigan State College, East Lansing			
Studies in midwestern life and history (RF 49025)	2,246.70	.....	1,941.24
Newberry Library, Chicago, Illinois			
Studies in midwestern culture (RF 47034)	4,660.63	.....	4,660.63
Tokyo University, Japan			
Seminars in American studies, sponsored jointly by Tokyo University and Stanford University (RF 50142, 51211) (Joint project with Social Sciences)	160,000.00	.....	33,000.00
University of Cologne, Germany			
Development of a program of American studies (RF 51037)	14,523.32	.....	6,248.70
University of Delaware, Newark			
Development of a program of American studies (RF 52085)	.....	75,000.00	15,500.00
University of Munich, Germany			
Visiting professors from the United States or Canada and library materials for its America Institute (RF 49096)	12,538.80	.....	12,097.45

University of Oklahoma, Norman			
Development of archival resources on the history and contemporary life of Oklahoma (RF 48062)	$596.79	$.....	$.....
University of Wisconsin, Madison			
Research and teaching in the materials of American civilization (RF 49081)	5,902.48	.....	4,500.00
Libraries			
Association of Special Libraries and Information Bureaux, London, England			
Preparation of a catalogue of periodicals in British libraries (RF 44004)	11,761.32	.....	2,788.13
British Museum, London, England			
To enable the museum to offer to American libraries subscriptions, at a discount, to the new edition of its *Catalogue of Printed Books* (RF 30076)	45,583.85	.....	637.61
Keio University, Tokyo, Japan			
Support of the Japan Library School (RF 52107)	.....	142,800.00	24,600.00
University Research Fund, University of São Paulo, Brazil			
Bibliographical information service (RF 45035)	6,650.43	.....	.....
Drama, Film, and Radio			
Dallas Civic Theatre, Texas			
For stimulation, criticism, and production of new play scripts (RF 52169)	.....	2,000.00	2,000.00
New Dramatists Committee, Inc., New York			
General support of its program (RF 51156)	41,750.00	.....	27,250.00
University of Bristol, England			
Development of university program in drama (RF 49119)	7,361.03	.....	2,466.14
Other Subjects			
American Council of Learned Societies, Washington, D. C.			
General support, planning, development, and fellowships (RF 50033)	306,250.00	.....	153,125.00
Pacific Coast Committee for Humanities. General support (RF 46091, 51144)	6,345.00	.....	4,345.00
Study of personnel problems in the humanities (RF 49052, 51008)	34,140.94	.....	8,640.94

	Appropriations Prior Years	Appropriations 1952	1952 Payments
Humanities — *Continued*			
Other Subjects — Continued			
American School of Classical Studies, Athens, Greece			
Museum to house objects excavated in the Agora (RF 37089)	$138,354.94	$.....	$.....
Antioch College, Yellow Springs, Ohio			
Research and planning in relation to its general education program (RF 51129)	9,770.00	.....	9,770.00
Colegio de México, Mexico, D.F.			
Research and a training seminar on contemporary Mexican history (RF 51219)	18,192.00	.....	5,373.50
Cornell University, Ithaca, New York			
Development of methods, materials, and personnel for the teaching of the history of modern science (RF 48124)	15,250.00	.....	7,725.00
Harvard University, Cambridge, Massachusetts			
Graduate School of Education. Support of program in history and philosophy (RF 52087)	.....	40,500.00	5,687.00
Humanities Research Council of Canada, Toronto			
Support of activities in planning and development (RF 51130)	14,249.31	.....	9,504.50
Institute of International Education, New York			
Expenses of an International Arts Program in 1952 (RF 51116)	12,952.50	.....	12,952.50
Italian Institute of Historical Studies, Naples			
Library materials, fellowships, and general support (RF 49007, 52151)	4,748.15	10,500.00	6,737.68
Kenyon College, Gambier, Ohio			
Toward payment of writers whose work is published in *The Kenyon Review* (RF 47037)	1,955.16	.....	1,955.16

Fellowships in creative writing and criticism awarded by editors of *The Kenyon Review*, and for editorial expenses of the *Review* (RF 52119)	$.....	$41,400.00	$.....
Lehigh University, Pennsylvania			
Research on the British Empire before the American Revolution (RF 52061)	.....	21,000.00	3,500.00
Mexican-American Cultural Institute, Mexico, D.F.			
Program to encourage creative writing in Mexico (RF 52127)	.....	22,750.00	22,750.00
National Diet Library, Tokyo, Japan			
Establishment of a microfilm laboratory (RF 52156)	.....	41,000.00	.....
National Institute of Economic and Social Research, London, England			
Editorial work on edition of complete works of Alexis de Tocqueville (RF 51167)	9,400.00	.....	4,919.94
Princeton University, New Jersey			
Development of a new course in military history (RF 51215)	20,000.00	.....	20,000.00
Expenses of an experimental group in literary criticism (RF 49023)	5,503.33	.....	4,879.54
Support of seminars in criticism (RF 52056)	.....	100,000.00	10,000.00
Society of American Historians, Inc., New York			
Survey of the extent to which historical material is currently used in the popular media (RF 52152)	.....	5,210.00	5,210.00
University of Bordeaux, France			
Development of work in humanities (RF 47061)	301.27	.....	257.64
University of Cambridge, England			
Downing College. Salary of an assistant for director of English studies (RF 49016, 51166)	9,377.08	.....	2,142.81
University of Chicago, Illinois			
Special faculty seminar in the college, connected with role of history and philosophy in its general education program (RF 51024)	8,866.66	.....	6,166.54

	Appropriations Prior Years	Appropriations 1952	1952 Payments
Humanities — *Continued*			
Other Subjects — Continued			
University of the South, Sewanee, Tennessee			
Payment of writers whose work is published in the *Sewanee Review* (RF 48011)	$7,189.75	$.....	$5,601.75
University of Toulouse, France			
Development of work in the humanities (RF 47062)	7,755.01	.....	427.63
Yale University, New Haven, Connecticut			
Preparation of a study of the characteristics of the history of the twentieth century (RF 52050)	.....	10,000.00	5,000.00
Fellowships and Grants in Aid			
Fellowships			
Administered by The Rockefeller Foundation (RF 48141, 49147, 50156, 51161, 51223, 52197)	278,379.47	150,000.00	125,498.23
American Council of Learned Societies, Washington, D. C.			
Fellowships in the humanities (RF 51048, 51049)	325,000.00	.....	127,500.00
Grants in Aid			
Administered by The Rockefeller Foundation (RF 47109, 48084, 48145, 50089, 50161, 51227, 52201)	516,559.27	300,000.00	287,473.34
Special Grant-in-Aid Fund			
To enable non-Muslem students of Islam, through visits to Islam, to gain a direct acquaintance with contemporary thought and movements within Islam (RF 51086)	24,322.13	.....	6,791.47
Surveys, studies, and conferences (RF 48083)	1,377.62	.....	.....
Total — Humanities	$3,115,008.48	$1,335,075.00	$1,459,407.16

MISCELLANEOUS			
American Association of Colleges for Teacher Education, Oneonta, New York			
Visits and study in this country by group of German leaders in teacher education (RF 49111)	$20.35	$.....	Cr. $3,400.61
American Council on Education, Washington, D. C.			
Committee on Religion and Education. Study of relation of religion to general education (RF 51061, 52128)	15,808.00	15,000.00	30,808.00
American Library Association, Chicago, Illinois			
Support of International Youth Library, Munich, Germany (RF 51020)	22,100.00	.....	5,550.00
Association of American Universities, New York			
Study of the financing of higher education and research (RF 49065)	61,603.52	.....	61,603.52
Colgate University, Hamilton, New York			
Pilot study of the impact of the ROTC program on the college curriculum (RF 52010)	.....	30,000.00	20,000.00
European Rehabilitation (RF 49038)	66,867.34	.....	.....
Exchange Fund (RF 46123)	12,992.70	.....	.....
Free University of Berlin, Germany			
Work in the social sciences and the humanities (RF 50063)	9,441.09	.....	5,679.03
General Education Board, New York			
Support of program for advancement of education in the southern states (RF 51201, 51202)	5,000,000.00	.....	4,900,000.00
Grants in Aid			
Administered by The Rockefeller Foundation for allocation by the officers within categories described by Trustee action and within specified limitations of amount and duration (RF 50056, 50162, 51122, 51228, 52121, 52202)	92,305.25	125,000.00	43,710.72
History of the International Health Division. Completion and publication (RF 50045, 52125)	1,077.18	25,000.00	4,199.36

	Appropriations Prior Years	Appropriations 1952	1952 Payments
Miscellaneous — *Continued*			
History of the Rockefeller Boards. Expenses (RF 48029)	$2,172.16	$.....	$6.27
Institute of International Education, New York			
International student exchange (RF 51115)	50,000.00	.....	50,000.00
Institute of Judicial Administration, Inc., New York			
Toward its expenses (RF 52073)	.....	250,000.00	.....
International House of Japan, Inc., Tokyo			
Toward establishment and support of an international cultural center in Tokyo (RF 52102, 52183)	.....	676,120.00	75,413.83
International Press Institute, Zurich, Switzerland			
Maintenance and development (RF 51050)	80,000.00	.....	60,000.00
Midwest Inter-Library Corporation, Chicago, Illinois			
General expense of a central depository library (RF 49045)	25,666.94	.....	25,666.94
National Research Council, Washington, D. C.			
Conference Board of the Associated Research Councils			
Study of Human Resources and the Fields of Higher Learning (RF 49088, 52074)	60,000.00	100,000.00	83,075.94
Office of the United Nations High Commissioner for Refugees, Geneva, Switzerland			
Survey of refugee problem and most appropriate methods for its solution (RF 51047, 52089)	40,000.00	20,000.00	60,000.00
Pacific Science Association, Washington, D. C.			
Establishment of permanent secretariat (RF 52014)	.....	23,600.00	10,300.00
Rockefeller Foundation Fellowship Directory. Preparation and distribution (RF 50163)	4,274.72	.....	*Cr.* 417.36

Salzburg Seminar in American Studies, Inc., Austria			
General budget (RF 51073)	$60,000.00	$.....	$30,000.00
Social Science Research Council, New York			
Committee on Cross-Cultural Education (RF 52067)	.....	75,000.00	25,000.00
Stanford University, Palo Alto, California			
Research in fields of communication and psychiatry (RF 52110)	.....	30,000.00	5,000.00
Yale University, New Haven, Connecticut			
Establishment and general support of a carbon 14 dating laboratory (RF 50132)	22,400.00	.....	5,600.00
TOTAL — MISCELLANEOUS	$5,626,729.25	$1,369,720.00	$5,497,795.64
ADMINISTRATION			
Home Office			
1951 (RF 2824, 50119, 51146)	$85,857.93	$.....	$26,828.70
1952 (RF 51195, 52070, 52173)	1,581,354.00	155,725.00	1,675,536.60
1953 (RF 52170)	.....	1,721,825.00	.....
Treasurer's Office			
1951 (RF 50120, 51046)	16,268.80	.....	13,215.22
1952 (RF 51196, 52072)	63,122.00	513.00	45,271.79
1953 (RF 52171)	.....	59,954.00	.....
Field Offices (RF 50123, 51145, 51197, 52154, 52172)			
Africa and Asia Minor			
Egypt, Cairo. 1951–1953	13,834.95	7,500.00	7,918.24
Iran, Tehran. 1951	2,633.34	.....	150.00
Canada, Toronto. 1951–1953	5,318.12	3,500.00	2,610.88

	Appropriations Prior Years	Appropriations 1952	1952 Payments
Administration — *Continued*			
Field Offices — *Continued*			
Caribbean Region			
Central Office, Florida, Miami. 1951–1952	$6,936.97	$.....	$4,429.73
Dominican Republic, Ciudad Trujillo. 1951–1953	4,470.29	4,000.00	3,675.38
Europe			
England, London. 1951–1953	14,135.07	10,760.00	11,557.88
France, Paris. 1952–1953	88,654.65	79,540.00	73,935.72
Italy, Rome. 1951–1952	14,412.99	.....	14,130.46
Far East			
India, Delhi and Bangalore. 1951–1953	11,363.20	16,450.00	9,734.09
Japan, Tokyo. 1951–1953	3,419.04	3,000.00	1,101.33
South America			
Bolivia, Cochabamba and La Paz. 1951–1953	5,446.09	2,000.00	3,279.74
Brazil, Rio de Janeiro. 1951–1953	12,702.84	15,000.00	7,796.29
Chile, Santiago. 1951–1953	6,156.74	5,000.00	3,785.88
Colombia, Bogotá. 1951–1953	6,697.61	1,860.00	2,915.13
Peru, Lima. 1951–1953	7,470.70	6,750.00	4,945.11
Mexico, Mexico, D.F. 1952–1953	3,220.00	8,500.00	3,745.53
Miscellaneous. 1951–1953	1,910.00	5,000.00	447.35
Total — Administration	$1,955,385.33	$2,106,877.00	$1,917,011.05
TOTALS	$29,429,228.78	$16,640,355.00	$19,370,651.08
Less			
Unused balances of appropriations allowed to lapse	1,094,988.63	.....	.....
GRAND TOTALS	$28,334,240.15	$16,640,355.00	$19,370,651.08

REFUNDS ON PRIOR YEAR CLOSED APPROPRIATIONS

American Bar Association Endowment, New York	(RF 50136)	$325.00
American Council of Learned Societies, Washington, D. C.	(RF 41083)	486.75
American Institute of Accountants, New York	(RF 47073)	109.59
American Law Institute, Philadelphia, Pennsylvania	(RF 50135)	12,232.02
Canadian Social Science Research Council, Montreal	(RF 44079)	2,478.94
Columbia University, New York	(RF 47008)	321.45
Columbia University, New York	(RF 50015)	1,426.79
Cornell University, Ithaca, New York	(RF 50118)	4.94
Encyclopedia of the Social Sciences, New York	(RF 32114)	1,532.27
Field Offices, Bangalore, India — 1950	(IH 49039)	258.72
Harvard University, Cambridge, Massachusetts	(RF 51141)	475.05
Health Insurance Plan of Greater New York	(RF 46131)	91,000.00
Johns Hopkins University, Baltimore, Maryland		
School of Hygiene and Public Health	(IH 45005)	48.50
National Institute of Health, China	(IH 48031)	14.00
National Theatre Conference, Cleveland, Ohio	(RF 49106)	173.51
New York University, New York	(RF 49087)	61.86
Pan American Sanitary Bureau, Washington, D. C.	(IH 50131)	25,000.00
Postwar appointments for medical graduates from armed services	(RF 44135)	855.35
Stanford University, Palo Alto, California	(RF 48065)	4,498.32
Stanford University, Palo Alto, California	(RF 48109)	832.79
Swarthmore College, Pennsylvania	(RF 48137)	396.17
University of California, Berkeley	(RF 46111)	1,155.84

REFUNDS ON PRIOR YEAR CLOSED APPROPRIATIONS — *Continued*

University of California, Berkeley	(IH 49015)	$2,603.39
University of California, Berkeley	(RF 51038)	1,169.30
University of Chicago, Illinois	(RF 49090)	214.78
University of Chicago, Illinois	(RF 50077)	905.11
University of Minnesota, Minneapolis	(RF 49086)	11.43
University of Oregon, Eugene	(RF 49051)	6,349.17
University of Texas, Austin	(RF 49042)	33.10
		$154,974.14

SUMMARY FINANCIAL STATEMENT

For the Year Ended December 31, 1952

Appropriations Account

Funds Available		Funds Appropriated	
Balance from 1951	$8,003,495	Appropriations	
Income for 1952..	16,893,519	Medicine and Public Health	$3,599,698
Unexpended balances of appropriations allowed to lapse and refunds on prior year grants....	1,264,220	Natural Sciences and Agriculture.....	3,862,150
		Social Sciences..	4,366,835
		Humanities....	1,335,075
		General.....	1,369,720
		Administration...	2,106,877
			$16,640,355
		Authorization for later appropriations by the Executive Committee.....	100,000
			$16,740,355
		Balance	
		Unappropriated balance of Appropriations Account No. II reverting to Principal Fund by action of Trustees December 2–3, 1952.....	6,024,703
		Available for appropriation in 1953.....	3,396,176
	$26,161,234		$26,161,234

Principal Fund

Book value December 31, 1951	$131,491,911
Unappropriated balance of Appropriations Account No. II	6,024,703
Gifts	12,520
	$137,529,134
Less amount by which the proceeds of securities sold, redeemed, etc., during the year failed to equal the ledger value	372,990
	$137,156,144

TRANSACTIONS RELATING TO INVESTED FUNDS

For the Year Ended December 31, 1952

Purchased			
$1,000,000	International Bank for Reconstruction and Development 3½s, 10/15/71 @ 98		$980,000.00
5,450,000	Standard Oil Co. (Indiana) Deb. 3⅛s, 10/1/82 by subscription at par plus the surrender of 599,500 rights @ $53.125 per 100 resulting in a ledger value of 105.8437		5,768,484.37
	USA Treasury Bills:		
6,200,000	dated 12/27/51 due 3/27/52 @ 99.668	$6,179,418.50	
6,400,000	" 1/10/52 " 4/10/52 @ 99.63	6,376,323.42	
7,900,000	" 11/27/51 " 6/15/52 @ 99.2989	7,844,619.23	
6,200,000	" 3/27/52 " 6/26/52 @ 99.5989	6,175,134.00	
4,400,000	" 4/10/52 " 7/10/52 @ 99.589	4,381,916.00	
7,000,000	" 5/22/52 " 8/21/52 @ 99.572	6,970,040.00	
6,200,000	" 6/26/52 " 9/25/52 @ 99.579	6,173,898.00	
4,400,000	" 7/10/52 " 10/9/52 @ 99.548	4,380,112.00	
7,000,000	" 8/21/52 " 11/20/52 @ 99.536	6,967,520.00	
3,000,000	" 9/25/52 " 12/26/52 @ 99.585	2,987,550.00	
4,400,000	" 10/9/52 " 1/8/53 @ 99.54	4,379,760.00	
3,000,000	" 11/13/52 " 2/13/53 @ 99.53	2,985,900.00	
7,000,000	" 11/20/52 " 2/19/53 @ 99.528	6,966,960.00	
3,000,000	" 12/26/52 " 3/26/53 @ 99.448	2,983,440.00	
			75,752,591.15
800,000	USA Treasury Certificates of Indebtedness 1⅞s, 2/15/53 @ 100.0052		800,041.83
4,000,000	" " " " " "B" 1⅞s, 6/1/53 @ 99.9469		3,997,877.76

TRANSACTIONS RELATING TO INVESTED FUNDS — *Continued*

PURCHASED — *Continued*			
4,400	*Shares*	Canadian Industries Ltd. Common (No par) @ $39.4212	$173,453.47
200	"	Christiana Securities Co. Common (Par $100) @ $5,568.00	1,113,600.00
715½	"	Dow Chemical Co. Common (Par $15) @ $119.2074	85,292.92
10,600	"	General Electric Co. Common (No par) @ $59.5421	631,146.29
1,000	"	E. I. duPont de Nemours & Co. Common (Par $5) @ $87.09675	87,096.75
10,000	"	B. F. Goodrich Co. Common (No par) @ $71.5049	715,049.37
5,000	"	Union Pacific Railroad Co. Common (Par $50) @ $111.1908	555,954.14
			$90,660,588.05
DIVIDENDS IN STOCK			
102½	*Shares*	Dow Chemical Co. Common (Par $15) received as a 2½% dividend on account of the ownership of 4,100 shares of stock owned of record 1/2/52. Taken into the books at no value thereby reducing the per share price of stock owned	$—0—
375	"	Dow Chemical Co. Common (Par $5) received as a 2½% dividend on account of the ownership of 15,000 shares owned of record 10/21/52. Taken into the books at no value thereby reducing the per share price of stock owned	—0—
12,000	"	Standard Oil Co. (New Jersey) Capital (Par $15) received on 600,000 shares Standard Oil Co. (Indiana) Capital (Par $25). Taken into the books @ $75.9375 in accordance with notice received from Standard Oil Co. (Indiana) dated 9/22/52 and the value credited to income	911,250.00
			$911,250.00

OTHERWISE ACQUIRED

20,000 *Rights*	American Telephone & Telegraph Co. received on account of the ownership of 20,000 shares American Telephone & Telegraph Co. Capital (Par $100). Taken into the books at the sales price of $2.116 and the value used to reduce the ledger price of stock owned	$42,320.64
133,174 "	Consolidated Natural Gas Co. received on account of the ownership of 133,174 shares Consolidated Natural Gas Co. Capital (Par $15). Taken into the books at the sales price of $67.0287 per 100 and the value used to reduce the ledger price of stock owned	89,264.80
4,100 "	Dow Chemical Co. received on account of the ownership of 4,100 shares Dow Chemical Co. Common (Par $15). Taken into the books at no value	— 0 —
15,000 "	Dow Chemical Co. received on account of the ownership of 15,000 shares Dow Chemical Co. Common (Par $5). Taken into the books at no value	— 0 —
82 *Shares*	Dow Chemical Co. Common (Par $15) @ $82.50 per share plus the surrender of 4,100 rights on the basis of one share for each 50 shares owned	6,765.00
300 "	Dow Chemical Co. Common (Par $5) @ $31.00 per share plus the surrender of 15,000 rights on the basis of one share for each 50 shares owned	9,300.00
6,000 *Rights*	Peoples Gas Light & Coke Co. received on account of the ownership of 6,000 shares Peoples Gas Light & Coke Co. Common (Par $100). Taken into the books at the price of $5.87988 each	35,279.28
1,000 *Shares*	Peoples Gas Light & Coke Co. Common (Par $100) @ par plus the surrender of 5,000 rights @ $5.87988 each on the basis of one share for each 5 shares owned of record 11/19/52	129,399.40
300,000 *Rights*	Socony-Vacuum Oil Co. received on account of the ownership of 300,000 shares Socony-Vacuum Oil Co. Capital (Par $15). Taken into the books at the sales price of $29.163 per 100 and value used to reduce the ledger value of stock owned	87,488.74
600,000 "	Standard Oil Co. (Indiana) received on account of the ownership of 600,000 shares Standard Oil Co. (Indiana) Capital (Par $25). Taken into the books at $53.125 per 100 and value used to reduce the ledger value of stock owned	318,750.00
		$718,567.86

TRANSACTIONS RELATING TO INVESTED FUNDS — *Continued*

Received in Exchange and by Stock Split			
$3,000,000	USA Treasury Certificates of Indebtedness 1⅞s, 2/15/53, for $3,000,000 USA Treasury Certificates of Indebtedness 1⅞s, 4/1/52		$2,998,894.83
1,000,000	USA Treasury Notes "A" 2⅛s, 12/1/53, for $1,000,000 USA Treasury Certificates of Indebtedness 1⅞s, 10/1/52		1,000,000.00
15,000 *Shares*	Dow Chemical Co. Common (Par $5) for 5,000 shares of Dow Chemical Co. Common (Par $15). Taken into the books at no value thereby reducing the price per share of stock owned		—0—
75,200 "	Phelps Dodge Corporation Capital (Par $12.50) for 37,600 shares Phelps Dodge Corporation Capital (Par $25). Taken into the books at no value thereby reducing the price per share of stock owned		—0—
			$3,998,894.83
Additions to Ledger Value			
	Interest increment on USA Savings Bonds Series F (12-year appreciation bonds)		
$67,500	(Maturity value) due 5/1/53	$2,362.50	
67,500	" " " 1/1/54	2,092.50	
67,500	" " " 7/1/54	1,957.50	
135,000	" " " 1/1/55	3,645.00	10,057.50
			$96,299,358.24

Sold		Total Proceeds	Ledger Value
$8,500,000	Standard Oil Co. (New Jersey) 25-year Deb. 2⅜s, 5/15/71 @ 90.62535	$7,703,155.15	$8,329,995.00
6,000,000	USA Treasury Bonds 2½s, 6/15/62–67 @ 97.625	5,857,500.00	6,000,000.00
6,500,000	" " " 2½s, 6/15/67–72 @ 95.692	6,220,000.00	6,510,068.20
6,000,000	" " " 2½s, 12/15/67–72 @ 95.795	5,747,718.75	6,000,000.00
5,000 *Shares*	Aluminium, Ltd. Capital (No par) @ $102.979	514,897.25	498,859.53
8,000 "	Aluminum Co. of America Common (No par) @ $77.248	617,985.75	417,757.05
20,000 *Rights*	American Telephone & Telegraph Co. @ $2.116	42,320.64	42,320.64
10,000 *Shares*	Canadian Pacific Railway Co. Ordinary (Par $25) @ $35.4926	354,926.15	335,790.70
133,174 *Rights*	Consolidated Natural Gas Co. @ $67.0287 per 100	89,264.80	89,264.80
5,000 *Shares*	E. I. duPont de Nemours & Co. Common (Par $5) @ $85.0423	425,211.60	333,544.43
4,000 "	General Mills, Inc. Common (No par) @ $53.6598	214,639.33	222,060.92
5,100 "	Kennecott Copper Corporation Capital (No par) @ $74.6369	380,648.32	298,550.66
4,000 "	Montgomery Ward & Co. Inc. Common (No par) @ $63.8244	255,297.74	223,337.11
1,000 *Rights*	Peoples Gas Light & Coke Co. @ $5.87988 each	5,879.88	5,879.88
5,200 *Shares*	Phelps Dodge Corporation Capital (Par $12.50) @ $35.2794	183,452.92	137,063.66
300,000 *Rights*	Socony-Vacuum Oil Co. @ $29.163 per 100	87,488.74	87,488.74
500 "	Standard Oil Co. (Indiana) @ $61. per 100	305.00	265.63
20,000 *Shares*	Texas Gulf Sulphur Co. Capital (No par) @ $105.8577	2,117,155.29	1,637,680.51
1,500 "	United States Rubber Co. 8% Non-cum. 1st Preferred (Par $100) @ $140.33	210,494.50	226,337.50
		$31,028,341.81	$31,396,264.96

TRANSACTIONS RELATING TO INVESTED FUNDS — *Continued*

			Total Proceeds	Ledger Value
Sold, Redeemed, or Paid at Maturity				
$100,000	Chesapeake & Ohio Ry. 2nd Equipment Trust 2⅞s, 5/15/52 @ par..		$100,000.00	$100,586.98
125,000	Chesapeake & Ohio Ry. 2nd Equipment Trust 2⅞s, 11/15/52 @ par.		125,000.00	125,932.89
175,000	Illinois Central R.R. Co. Equipment Series "EE" 2⅞s, 4/1/52 @ par.		175,000.00	175,790.96
200,000	Illinois Central R.R. Co. Equipment Series "EE" 2⅞s, 10/1/52 @ par		200,000.00	201,141.56
100,000	Illinois Central R.R. Co. Equipment Series "U" 3s, 5/1/52 @ par...		100,000.00	100,566.12
100,000	Illinois Central R.R. Co. Equipment Series "U" 3s, 11/1/52 @ par..		100,000.00	100,712.39
100,000	St. Louis, San Francisco Ry. Co. Equipment Series "B", 8/15/52 @ par.....		100,000.00	100,334.16
	USA Treasury Bills (issued on discount basis)			
6,200,000	dated 12/27/51 due 3/27/52 @ 99.668.....	$6,179,418.50		
6,400,000	" 1/10/52 " 4/10/52 @ 99.63.....	6,376,323.42		
7,900,000	" 11/27/51 " 6/15/52 @ 99.2989.....	7,844,619.23		
6,200,000	" 3/27/52 " 6/26/52 @ 99.5989.....	6,175,134.00		
4,400,000	" 4/10/52 " 7/10/52 @ 99.589.....	4,381,916.00		
7,000,000	" 5/22/52 " 8/21/52 @ 99.572.....	6,970,040.00		
6,200,000	" 6/26/52 " 9/25/52 @ 99.579.....	6,173,898.00		
4,400,000	" 7/10/52 " 10/9/52 @ 99.548.....	4,380,112.00		
7,000,000	" 8/21/52 " 11/20/52 @ 99.536.....	6,967,520.00		
3,000,000	" 9/25/52 " 12/26/52 @ 99.585.....	2,987,550.00	58,436,531.15*	58,436,531.15
			$59,336,531.15	$59,341,596.21

* Proceeds on USA Treasury Bills augmented by sum of $255,468.85 which was appropriately credited to income (cost of these bonds is identical with redemption price).

		Total Proceeds	Ledger Value
Surrendered in Exchange			
$3,000,000	USA Treasury Certificates of Indebtedness 1⅞s, 4/1/52, for $3,000,000 USA Treasury Certificates of Indebtedness 1⅞s, 2/15/53	$2,998,894.83	$2,998,894.83
1,000,000	USA Treasury Certificates of Indebtedness 1⅞s, 10/1/52, for $1,000,000 USA Treasury Notes "A" 2⅛s, 12/1/53	1,000,000.00	1,000,000.00
5,000 *Shares*	Dow Chemical Co. Common (Par $15) for 15,000 shares Dow Chemical Co. Common (Par $5)	—0—	—0—
5,000 *Rights*	Peoples Gas Light & Coke Co. surrendered upon subscription to 1,000 shares Peoples Gas Light & Coke Co. Common (Par $100)	29,399.40	29,399.40
37,600 *Shares*	Phelps Dodge Corporation Capital (Par $25) for 75,200 shares Phelps Dodge Corporation Capital (Par $12.50)	—0—	—0—
599,500 *Rights*	Standard Oil Co. (Indiana) surrendered upon subscription to $5,450,000 Standard Oil Co. (Indiana) Deb. 3⅛s, 10/1/82	318,484.37	318,484.37
		$4,346,778.60	$4,346,778.60
Ledger Value of Stocks Reduced by Value of Rights Received Thereon			
20,000 *Shares*	American Telephone & Telegraph Co. Capital (Par $100)	$42,320.64	$42,320.64
133,174 "	Consolidated Natural Gas Co. Capital (Par $15)	89,264.80	89,264.80
6,000 "	Peoples Gas Light & Coke Co. Common (Par $100)	35,279.28	35,279.28
300,000 "	Socony-Vacuum Oil Co. Capital (Par $15)	87,488.74	87,488.74
600,000 "	Standard Oil Co. (Indiana) Capital (Par $25)	318,750.00	318,750.00
		$573,103.46	$573,103.46

TRANSACTIONS RELATING TO INVESTED FUNDS — *Continued*

		Total Proceeds	Ledger Value
Ledger Value Written Off and Certificates Destroyed			
17,500	Chicago City & Connecting Rys. Preferred Participation Certificates (C/D) (No par)	$—0—	$1.00
10,518	Chicago City & Connecting Rys. Common Participation Certificates (No par)	—0—	1.00
		$—0—	$2.00
		$95,284,755.02	$95,657,745.23

Amortization of Premium Paid on Purchase of Securities		
$6,200,000	USA Treasury Bonds 2¾s, 12/15/59–62	$2,688.68
6,500,000	" " " 2½s, 6/15/67–72	54.43
1,000,000	USA Treasury Certificates of Indebtedness 1⅞s, 10/1/52	967.63
		$3,710.74

RECONCILIATION

Ledger value of securities, December 31, 1951		$163,654,758.11
Purchased	$90,660,588.05	
Dividends in stock	911,250.00	
Otherwise acquired	718,567.86	
Received in exchange and by stock split	3,998,894.83	
Additions to ledger value	10,057.50	96,299,358.24
		$259,954,116.35
Sold	$31,396,264.96	
Sold, redeemed, or paid at maturity	59,341,596.21	
Surrendered in exchange	4,346,778.60	
Ledger value reduced	573,103.46	
Ledger value written off	2.00	
	$95,657,745.23	
Amortization	3,710.74	95,661,455.97
Ledger value of securities, December 31, 1952		$164,292,660.38

SCHEDULE OF SECURITIES ON DECEMBER 31, 1952
BONDS

Name	Par	Ledger Value		Market Value	
		Price	Total	Price	Total
Chesapeake & Ohio Ry. 2nd Equipment Trust 2⅞s, May 15, 1953	$100,000	100.806	$100,806.05	100.125	$100,125.00
Chicago, Milwaukee, St. Paul & Pacific R.R. Trustees Equipment Series EE 2s, July 1, 1953	125,000	99.175	123,968.81	99.625	124,531.25
Chicago & North Western Ry. Equipment, 2nd issue 1948, 2⅝s, Nov. 1, 1953	225,000	99.466	223,799.51	99.875	224,718.75
Illinois Central R.R. Equipment Series EE 2⅞s, April 1, 1953	200,000	100.59	201,181.19	100.00	200,000.00
International Bank for Reconstruction and Development 3½s, October 15, 1971	1,000,000	98.	980,000.00	100.00	1,000,000.00
Southern Pacific Co. Equipment Series EE 2⅞s, April 1, 1953	350,000	100.957	353,350.89	100.00	350,000.00
Standard Oil Co. (Indiana) Deb. 3⅛s, October 1, 1982	5,450,000	105.844	5,768,484.37	112.25	6,117,625.00
United States of America Treasury Bills					
Due					
January 8, 1953	4,400,000	99.540	4,379,760.00	99.9533	4,397,946.67
February 13, 1953	3,000,000	99.530	2,985,900.00	99.7555	2,992,666.66
February 19, 1953	7,000,000	99.528	6,966,960.00	99.7222	6,980,555.54
March 26, 1953	3,000,000	99.448	2,983,440.00	99.5277	2,985,833.32

United States of America Treasury Bonds					
Int. *Dated* *Due*					
2% — Sept. 15, 1943 — Sept. 15, 1951-53	$5,000,000	100.	$5,000,000.00	100.00	$5,000,000.00
2% — June 26, 1944 — June 15, 1952-54	4,500,000	100.	4,500,000.00	99.6563	4,484,531.25
2% — Dec. 1, 1944 — Dec. 15, 1952-54	6,600,000	100.	6,600,000.00	99.4687	6,564,937.50
2¼% — June 1, 1945 — June 15, 1959-62	7,000,000	100.	7,000,000.00	97.625	6,833,750.00
2¼% — Nov. 15, 1945 — Dec. 15, 1959-62	6,200,000	100.304	6,218,820.70	97.625	6,052,750.00
United States of America Treasury Certificates of Indebtedness 1⅞% dated March 1, 1952, due February 15, 1953	3,800,000	99.972	3,798,936.66	100.034	3,801,292.00
United States of America Treasury Certificates of Indebtedness Series "B" 1⅞% dated July 1, 1952, due June 1, 1953	4,000,000	99.95	3,997,877.76	99.95	3,998,000.00
United States of America Treasury Notes Series "A" 2⅛% dated Oct. 1, 1952, due Dec. 1, 1953	1,000,000	100.	1,000,000.00	100.125	1,001,250.00
United States of America Savings Bonds					
Defense Series F (12-year appreciation bonds)					
Due May 1, 1953 — Maturity value	67,500	98.	66,150.00	98.00	66,150.00
Jan. 1, 1954 — " "	67,500	94.50	63,787.50	94.50	63,787.50
July 1, 1954 — " "	67,500	92.90	62,707.50	92.90	62,707.50
Jan. 1, 1955 — " "	135,000	91.40	123,390.00	91.40	123,390.00

SCHEDULE OF SECURITIES — *Continued*

BONDS — *Continued*

Name	Par	Ledger Value		Market Value	
		Price	Total	Price	Total
United States of America Savings Bonds 2½s, Series G, dated Oct. 1, 1950, due Oct. 1, 1962	$1,000,000	100.	$1,000,000.00	96.20	$962,000.00
Wheeling & Lake Erie Ry. Equipment Series O, 1⅞s, Dec. 1, 1953	100,000	98.834	98,834.32	99.625	99,625.00
Total Bonds	.....	.....	$64,598,155.26	.....	$64,588,172.94

PREFERRED STOCK

Name	Shares	Ledger Value		Market Value	
		Price	Total	Price	Total
Tennessee Gas Transmission Co. 4.25% Cum. (Par $100)	5,000	$96.675	$483,372.50	$89.00	$445,000.00

COMMON STOCKS

Name	Shares	Ledger Value		Market Value	
		Price	Total	Price	Total
American Gas & Electric Co. (Par $10)	15,750	$51.433	$810,074.11	$67.875	$1,069,031.25
American Telephone & Telegraph Co. Cap. (Par $100)	20,000	139.713	2,794,268.24	159.375	3,187,500.00
The Buckeye Pipe Line Co. Cap. (No par)	107,763	11.791	1,270,627.60	17.50	1,885,852.50
Canadian Industries Limited (No par)	4,400	39.421	173,453.47	40.1822	176,801.68
Christiana Securities Co. (Par $100)	200	5,568.00	1,113,600.00	6,520 00	1,304,000.00
Consolidated Natural Gas Co. Cap. (Par $15)	133,174	28.462	3,790,417.87	58.00	7,724,092.00
Continental Insurance Co. Cap. (Par $10)	10,000	65.597	655,965.37	79.50	795,000.00
Continental Oil Co. Cap. (Par $5)	150,000	14.46	2,169,117.65	62.625	9,393,750.00
Dow Chemical Co. (Par $5)	15,675	20.407	319,872.40	42.75	670,106.25
Fireman's Fund Insurance Co. Cap. (Par $5)	10,000	57.67	576,708.97	60.50	605,000.00
First National Bank of Chicago (Par $100)	6,000	193.229	1,159,379.35	250.00	1,500,000.00
General Electric Co. (No par)	20,000	59.021	1,180,424.14	72.75	1,455,000.00
Goodrich, B. F. Co. (No par)	10,000	71.505	715,049.37	77.00	770,000.00
Hartford Fire Insurance Co. Cap. (Par $10)	15,000	130.075	1,951,131.15	170.00	2,550,000.00
International Nickel Co. of Canada, Ltd. (No par)	52,500	40.818	2,142,936.29	46.375	2,434,687.50
International Paper Co. (Par $7.50)	50,000	41.685	2,084,257.31	55.00	2,750,000.00
Interstate Natural Gas Co. Inc. Cap. (No par)	33,765	14.959	505,106.25	42.00	1,418,130.00
Kennecott Copper Corporation Cap. (No par)	30,000	58.539	1,756,180.37	78.50	2,355,000.00
Monsanto Chemical Co. (Par $5)	6,043	69.947	422,687.85	92.25	557,466.75
National Fuel Gas Co. Cap. (No par)	381,018	7.75	2,952,889.50	14.875	5,667,642.75
The Ohio Oil Co. (No par)	94,684	32.735	3,099,446.50	56.50	5,349,646.00

SCHEDULE OF SECURITIES — *Concluded*

COMMON STOCKS — *Concluded*

Name	Shares	Ledger Value		Market Value	
		Price	Total	Price	Total
Peoples Gas Light & Coke Co. (Par $100)	7,000	$120.653	$844,573.46	$135.00	$945,000.00
Phelps Dodge Corporation Cap. (Par $12.50)	70,000	26.358	1,845,087.74	40.125	2,808,750.00
Socony-Vacuum Oil Co. Cap. (Par $15)	300,000	33.015	9,904,514.61	37.625	11,287,500.00
Standard Oil Co. of California Cap. (No par)	75,600	7.84	592,739.03	59.25	4,479,300.00
Standard Oil Co. (Indiana) Cap. (Par $25)	600,000	28.369	17,021,661.26	81.75	49,050,000.00
Standard Oil Co. (New Jersey) Cap. (Par $15)	2,093,000	15.378	32,186,649.51	77.75	162,730,750.00
Union Pacific R.R. Co. (Par $50)	10,000	107.565	1,075,659.68	115.25	1,152,500.00
Union Tank Car Co. Cap. (No par)	240,000	6.692	1,606,087.97	40.25	9,660,000.00
United Fruit Co. Cap. (No par)	15,000	57.965	869,477.29	57.125	856,875.00
Weyerhaeuser Timber Co. Cap. (Par $25)	30,000	54.036	1,621,088.31	69.00	2,070,000.00
Total Common Stocks	.....	.....	$99,211,132.62	.....	$298,659,381.68

SUMMARY	Ledger Value	Market Value
Bonds	$64,598,155.26	$64,588,172.94
Preferred Stock	483,372.50	445,000.00
Common Stocks	99,211,132.62	298,659,381.68
	$164,292,660.38	$363,692,554.62

HASKINS & SELLS

CERTIFIED PUBLIC ACCOUNTANTS

250 PARK AVENUE, NEW YORK 17

ACCOUNTANTS' CERTIFICATE

TO THE BOARD OF TRUSTEES OF
THE ROCKEFELLER FOUNDATION:

We have examined the balance sheet of The Rockefeller Foundation as of December 31, 1952 and the related statements of Principal Fund and Funds Available for Commitment for the year then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In accordance with the policy of the Foundation, no effect has been given in the accompanying statements to accrued income not received, nor to expenditures made from advance accounts not reported in time to be recorded when the books were closed, as of December 31, 1952.

In our opinion, with the foregoing explanation, the accompanying balance sheet and statements of Principal Fund and Funds Available for Commitment present fairly the financial position of the Foundation at December 31, 1952 and the results of its operations for the year then ended, in conformity with generally accepted accounting principles.

HASKINS & SELLS

March 16, 1953

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