The Rockefeller Foundation

Annual Report

1931

The Rockefeller Foundation
61 Broadway, New York

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ILLUSTRATIONS

THE ROCKEFELLER FOUNDATION

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1931

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JAMES R. ANGELL
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ERNEST M. HOPKINS
CHARLES P. HOWLAND
VERNON KELLOGG
MAX MASON
JOHN D. ROCKEFELLER, JR.
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HAROLD H. SWIFT
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WILLIAM ALLEN WHITE
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ARTHUR WOODS
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WADE H. FROST, M.D.
EDWIN O. JORDAN, SC.D.
WALLER S. LEATHERS, M.D.
LEWIS R. THOMPSON, M.D.
FREDERICK F. RUSSELL, M.D., *Director of the Division, Secretary*

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Director for the Natural Sciences
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Director for the Social Sciences
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Treasurer
LOUIS GUERINEAU MYERS

Comptroller
GEORGE J. BEAL

Counsel
THOMAS M. DEBEVOISE

* Resigned August 31, 1931.

THE ROCKEFELLER FOUNDATION

MEMBERS, COMMITTEES, AND OFFICERS

1932

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Trevor Arnett
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Walter W. Stewart

International Health Division

Scientific Directors

Rufus Cole, M.D., *Chairman*

John G. FitzGerald, M.D.
Wade H. Frost, M.D.
Edwin O. Jordan, Sc.D.
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Frederick F. Russell, M.D., *Director of the Division, Secretary*

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Counsel
Thomas M. Debevoise

To the Members of The Rockefeller Foundation,
New York.

Gentlemen:

I have the honor to transmit herewith an account of the work of The Rockefeller Foundation for the period January 1, 1931, to December 31, 1931, including the reports of the Secretary and the Treasurer of the Foundation, the Director of the International Health Division, and the Directors for the Medical Sciences, Natural Sciences, Social Sciences, and Humanities.

Respectfully yours,

MAX MASON

President

WICKLIFFE ROSE

Wickliffe Rose, general director of the International Health Board of The Rockefeller Foundation from 1914 to 1923 and president of the General Education Board and of the International Education Board from 1923 to 1928, died in Vancouver Island, British Columbia, on September 5, 1931.

Mr. Rose was born in Saulsbury, Tennessee, November 19, 1862, and was educated at the University of Nashville. After a distinguished career as an educator he was called, at the age of forty-seven, to assume direction of the Rockefeller Sanitary Commission for the Eradication of Hookworm Disease. He at once enlisted the states of the southern United States in a cooperative effort against this disease. Nearly half a million infected persons were treated, but more important than such immediate results were the permanent improvements in sanitary conditions and the great impetus to the development of rural health organizations which grew out of the campaign.

When The Rockefeller Foundation was organized in 1913 its first important action was to create the International Health Board and to invite Mr. Rose to give it leadership in extending to other countries the experimental work that had been so successful in the southern United States. He undertook in 1914 the organization of this larger movement, and once more, over and beyond the direct results of the measures against hookworm disease, including as they did the treatment of more than five million persons, he was able to bring to the minds of his associates the vision of a world-wide attack on all preventable disease. Out of that vision have come activities for the improvement of health organization throughout the world.

Mr. Rose thus contributed to his era a new conception of the scope of public health, a new form of international cooperation. Before the close of the thirteen years he devoted to the health field the term "public health" had become permanently associated with his name throughout the world. He was a true pioneer, attracted to new and uncharted fields which offered unlimited scope for initiative. His career exemplified the happy conjunction of the man and the opportunity, which made possible the carrying of health and the resultant happiness, economic prosperity, and intellectual development to the peoples of the world on an unprecedented scale.

Photograph Excised Here

REPORT OF THE SECRETARY

SECRETARY'S REPORT

The members and trustees of The Rockefeller Foundation during 1931 were:

John D. Rockefeller, Jr., *Chairman*

James R. Angell	Max Mason
Trevor Arnett	Walter W. Stewart
John W. Davis	Anson Phelps Stokes
David L. Edsall	Harold H. Swift
Raymond B. Fosdick	Augustus Trowbridge
Jerome D. Greene	George H. Whipple
Ernest M. Hopkins	William Allen White
Charles P. Howland	Ray Lyman Wilbur
Vernon Kellogg	Arthur Woods

Owen D. Young

The following were members of the Executive Committee during the year:

The President, *Chairman*

Trevor Arnett	Charles P. Howland
David L. Edsall	Vernon Kellogg
Raymond B. Fosdick	Augustus Trowbridge
Jerome D. Greene	Arthur Woods

The following served as scientific directors of the International Health Division:

Rufus Cole, M.D., *Chairman*

John G. FitzGerald, M.D.	Edwin O. Jordan, Sc.D.
Wade H. Frost, M.D.	Waller S. Leathers, M.D.

Lewis R. Thompson, M.D.

Frederick F. Russell, M.D., *Director of the Division, Secretary*

Meetings

Regular meetings of The Rockefeller Foundation were held on April 15 and December 16,

1931. Eight meetings of the Executive Committee were held during the year to execute programs within general policies approved by the trustees.

The officers of the Foundation during 1931 were:

John D. Rockefeller, Jr.	*Chairman, Board of Trustees*
Max Mason	*President*
Thomas B. Appleget	*Vice-President in the New York Office*
Selskar M. Gunn	*Vice-President in Europe*
Alan Gregg, M.D.	*Director for the Medical Sciences*
Herman A. Spoehr *	*Director for the Natural Sciences*
Edmund E. Day	*Director for the Social Sciences*
Frederick F. Russell, M.D.	*Director, International Health Division*
Norma S. Thompson	*Secretary*
Louis Guerineau Myers	*Treasurer*
George J. Beal	*Comptroller*
Thomas M. Debevoise	*Counsel*

Financial Summary

The following is a summary of receipts and disbursements of the Foundation in 1931. Disbursements in many instances involved appropriations made in former years; on the other hand, in some cases payments represented but a portion of appropriations made during 1931, remainders of which are payable during succeeding years.

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* Resigned August 31, 1931.

Statement of Funds Available and Disbursements During the Year 1931

FUNDS AVAILABLE		
Balance available December 31, 1930		
To meet appropriations, pledges, and authorizations	$61,176,746.00	
Available for appropriation	4,725,947.78	
	$65,902,693.78	
Authorization allowed to lapse, reverting to Principal Fund	275,000.00	$65,627,693.78
Income and refunds received during the year 1931		11,074,094.83
		$76,701,788.61
DISBURSEMENTS		
Universities and other educational institutions		
Education		
Medical sciences	$528,363.57	
Public health	9,168.37	
Nursing	64,068.55	
Social sciences	126,039.97	
Natural sciences	34,287.37	
General	7,500.00	
Departmental development	672,411.15	
Research programs	1,517,255.18	
Land and buildings	817,384.75	
Research institutions and organizations		
Education		
Medical sciences	2,345.20	
Social sciences	15,588.66	
General	10,000.00	
General development	2,174,374.23	
Research programs	814,118.54	
Land and buildings	588,655.51	
Special committees and commissions	367,299.38	
Fellowships and grants in aid	1,509,502.37	
Miscellaneous	947,484.84	
Public health	3,586,820.75	
General	2,887,069.30	
Administration	797,487.33	$17,477,225.02

BALANCE		
To meet appropriations, pledges, and authorizations	$57,496,305.66	
Available for appropriations	1,728,257.93	$59,224,563.59

Summary of Expenditures in 1931

UNIVERSITIES AND OTHER EDUCATIONAL INSTITUTIONS	
Medical Science Education	
Albany Medical College, New York	$20,000.00
China Medical Board, Inc., New York City	334,000.00
Chulalongkorn University, Bangkok, Siam	36,415.96
National Central University, Shanghai, China	35,000.00
Peiping Union Medical College, China	55,692.61
Shantung Christian University, Tsinan, China	22,255.00
University of Montreal, Canada	25,000.00
	$528,363.57
Public Health Education	
University of the Philippines, Manila	$9,168.37
Nursing Education	
St. Luke's International Hospital College of Nursing, Tokyo, Japan	$5,000.00
University of Lyon, France	10,000.00
Vanderbilt University, Nashville, Tennessee	35,000.00
Miscellaneous	14,068.55
	$64,068.55
Social Science Education	
American University of Beirut, Syria	$5,943.35
Atlanta School of Social Work, Georgia	8,091.25
National Catholic School of Social Service, Washington, D. C.	15,000.00
New York School of Social Work, New York City	10,000.00
Tulane University of Louisiana, New Orleans	12,000.00
University of Chicago, Illinois	53,717.72
Western Reserve University, Cleveland, Ohio	18,750.00
Miscellaneous	2,537.65
	$126,039.97
Natural Science Education	
Fukien Christian University, Foochow, China	$5,000.00
Yenching University, Peiping, China	25,000.00
Miscellaneous	4,287.37
	$34,287.37

General Education	
New Education Fellowship, London, England	$7,500.00
Departmental Development	
Harvard University, Cambridge, Massachusetts	$110,786.59
Keio Gijuku University, Tokyo, Japan	9,253.55
London School of Economics and Political Science, England	24,773.12
New York School of Social Work, New York City	25,000.00
Syracuse University, New York	15,000.00
Tohoku Imperial University, Sendai, Japan	7,984.56
University of Bristol, England	242,812.50
University of California, Berkeley	36,000.00
University of Chicago, Illinois	34,086.31
University of Szeged, Hungary	14,108.35
University of Washington, Seattle	10,000.00
Yale University, New Haven, Connecticut	137,697.99
Miscellaneous	4,908.18
	$672,411.15
Research Programs	
Columbia University, New York City	$86,902.47
Cornell University Medical School, New York City	24,809.64
Harvard University, Cambridge, Massachusetts	162,227.33
Harvard University and Radcliffe College	49,038.56
Johns Hopkins University, Baltimore, Maryland	93,284.56
Massachusetts Institute of Technology, Cambridge	20,000.00
McGill University, Montreal, Canada	40,000.00
Peiping Union Medical College, China	30,094.20
Stanford University, California	72,500.00
Tulane University of Louisiana, New Orleans	7,500.00
University of California, Berkeley	10,000.00
University of Chicago, Illinois	145,034.90
University of Denver, Colorado	13,544.49
University of Freiburg im Breisgau, Germany	6,266.02
University of Hawaii, Honolulu	30,000.00
University of Leiden, Netherlands	18,223.50
University of Minnesota, Minneapolis	77,500.00
University of North Carolina, Chapel Hill	45,000.00
University of Pennsylvania, Philadelphia	26,500.00
University of Rochester, New York	58,826.72
University of Stockholm, Sweden	6,000.00
University of Texas, Austin	47,500.00
University of Toronto, Canada	8,000.00
University of Vermont, Burlington	15,201.66

University of Vienna, Austria	$10,500.00
University of Virginia, Charlottesville	45,278.02
University of Warsaw, Poland	7,239.40
Washington University, St. Louis, Missouri	50,000.00
Yale University, New Haven, Connecticut	300,251.28
Miscellaneous	10,032.43
	$1,517,255.18
Land and Buildings	
University of California, Berkeley	$40,000.00
University of Lyon, France	177,019.96
University of Munich, Germany	206,635.63
University of the Philippines, Manila	124,200.00
University of Stockholm, Sweden	7,090.19
University of Sydney, Australia	97,200.00
University of Washington, Seattle	159,688.60
Miscellaneous	5,550.37
	$817,384.75
RESEARCH INSTITUTIONS AND ORGANIZATIONS	
Medical Science Education	
China Medical Association, Shanghai	$2,345.20
Social Science Education	
Laboratory of Anthropology, Santa Fe, New Mexico	$12,450.29
Miscellaneous	3,138.37
	$15,588.66
General Education	
Canadian National Committee for Mental Hygiene, Toronto, Canada	$10,000.00
General Development	
American Historical Association, Washington, D. C.	$5,851.28
American Schools of Oriental Research, Baghdad and Jerusalem	51,666.66
Brookings Institution, Washington, D. C.	75,000.00
Hungarian Biological Research Institute, Tihany	8,820.96
Institute for Comparative Research in Human Culture, Oslo, Norway	23,289.56
Institute of Economics and History, Copenhagen, Denmark	12,000.00
Institute of Pacific Relations, Honolulu, Hawaii	30,000.00
International Institute of African Languages and Cultures, London, England	12,500.00

Long Island Biological Association, Cold Spring Harbor, New York	$ 20,000.00
National Bureau of Economic Research, New York City	48,520.21
National Institute of Public Administration, New York City	787,500.00
Research Institute of Experimental Biology, Copenhagen, Denmark	26,827.65
Social Science Research Council, New York City	55,000.00
Woods Hole Oceanographic Institution, Massachusetts	1,009,981.84
Miscellaneous	7,416.07
	$2,174,374.23

Research Programs

American Council of Learned Societies, Washington, D. C.	$12,543.88
American Law Institute, Philadelphia, Pennsylvania	19,329.68
Association for the Study of Negro Life and History, Washington, D. C.	7,036.62
Australian National Research Council, Sydney	24,886.07
Behavior Research Fund, Chicago, Illinois	10,000.00
Bernice P. Bishop Museum, Honolulu, Hawaii	10,000.00
Canadian National Committee for Mental Hygiene, Toronto	31,620.00
Council on Foreign Relations, New York City	30,000.00
Dutch Economic Institute, Rotterdam, Netherlands	5,000.00
Economic Foundation, New York City	54,931.29
Field Museum of Natural History, Chicago, Illinois	5,000.00
Industrial Relations Counselors, Inc., New York City	30,725.00
Institute for International Economics and Maritime Trade, Kiel, Germany	10,000.00
Institute for Social and Political Sciences, University of Heidelberg, Germany	13,802.60
Institute of Pacific Relations, Honolulu, Hawaii	121,500.30
International Institute of Public Law, Paris, France	5,000.00
Massachusetts Department of Mental Diseases, Boston	22,785.13
Massachusetts Society for Mental Hygiene, Boston	29,428.37
National Institute of Industrial Psychology, London, England	10,000.00

National Research Council, Washington, D. C.	$16,806.02
Notgemeinschaft der Deutschen Wissenschaft, Berlin, Germany	37,240.32
Social Science Research Council, New York City	179,870.91
Trudeau Foundation, Trudeau, New York	10,000.00
Welfare Council of New York City	98,750.00
Miscellaneous	17,862.35
	$814,118.54
Land and Buildings	
Hungarian Biological Research Institute, Tihany	$7,056.76
Kaiser Wilhelm Gesellschaft, Berlin, Germany	17,816.25
Marine Biological Association of the United Kingdom, Plymouth, England	3,882.50
Woods Hole Oceanographic Institution, Massachusetts	559,900.00
	$588,655.51
SPECIAL COMMITTEES AND COMMISSIONS	
American Institute of Mining and Metallurgical Engineers, New York City	$5,000.00
Committee on Costs of Medical Care, Washington, D. C.	45,525.00
Committee on Grading of Nursing Schools, New York City	5,000.00
National Institute of Public Administration, New York City	12,160.07
President's Conference on Unemployment, Washington, D. C.	50,000.00
President's Research Committee on Social Trends, Washington, D. C.	233,520.41
University of Oxford, England	13,486.18
Miscellaneous	2,607.72
	$367,299.38
FELLOWSHIPS AND GRANTS IN AID	
American Council of Learned Societies, Washington, D. C.	$151,300.55
American School of Classical Studies at Athens, Greece	10,600.00
Developmental aid, China	7,081.09
Fellowships administered by the Foundation	534,983.75
Hungarian Scholarship Council, Budapest	8,500.69
London Hospital, England	6,198.53
Medical Research Council, Great Britain	13,876.08

National Research Council, Washington, D. C.	$451,417.34
Notgemeinschaft der Deutschen Wissenschaft, Berlin, Germany	18,704.42
Peiping Union Medical College, China	39,221.87
Research aid funds in medical, natural, and social sciences	129,432.75
Social Science Research Council, New York City	105,352.32
Trinity College, Dublin, Irish Free State	5,023.97
University College, Dublin, Irish Free State	7,186.22
Visits of commissions and individuals	7,129.22
Miscellaneous	13,493.57
	$1,509,502.37

MISCELLANEOUS

Abraham Lincoln Foundation, Dresden, Germany	$15,000.00
American Psychological Association, Princeton, New Jersey	7,702.93
Association of Community Chests and Councils, New York City	75,000.00
Bibliothèque Nationale, Paris, France	20,007.48
Board of Missions of the Methodist Episcopal Church, South, Soochow, China	6,295.00
Bulletins and reprints	6,888.61
Encyclopaedia of the Social Sciences	91,251.57
League of Nations, Geneva, Switzerland	13,815.10
National Academy of Sciences, Washington, D. C.	20,700.00
National Research Council, Washington, D. C.	77,423.73
Social Science Research Council, New York City	76,753.83
Unemployment relief, New York City	500,000.00
Unemployment relief. Demonstration of a plan for family food production in connection with industrial employment	17,500.00
Miscellaneous	19,146.59
	$947,484.84

PUBLIC HEALTH

Regular program of the International Health Division in state and local health work, public health education, control of specific diseases, investigations	$2,572,244.96
Development of child health measures in county health programs in cooperation with United States Public Health Service	28,578 00
Institute of Hygiene and Public Health, Rome, Italy	243,097.83

Tuberculosis Study Clinic, Kingston, Jamaica, West Indies	$3,964.14
League of Nations, Geneva, Switzerland	138,935.82
University of Toronto, Canada	600,000.00
	$3,586,820.75

GENERAL *

Agricultural Club Work in Sweden and Finland	$41,663.76
American Association for Adult Education, New York City	15,754.33
American Association of Museums, Washington, D. C.	22,926.20
American Association of University Women, Washington, D. C.	5,000.00
American Home Economics Association, Washington, D. C.	15,338.34
American Library in Paris, France	12,500.00
Boy Scouts of America, New York City	10,872.71
Commission on Interracial Cooperation, Atlanta, Georgia	34,973.95
East Harlem Health Center, Inc., New York City	41,235.00
Fisk University, Nashville, Tennessee	51,904.96
Georgia State College of Agriculture and Mechanic Arts, Athens, Georgia	5,625.00
Institute of International Education, New York City	24,000.00
Jean Jacques Rousseau Institute, Geneva, Switzerland	7,670.70
Joint Vocational Service, Inc., New York City	5,400.00
League of Red Cross Societies, Paris, France	7,500.00
Monmouth County (New Jersey) Organization for Social Service	5,850.00
National Urban League, New York City	12,588.38
Neighborhood Teacher Association, New York City	7,702.75
Playground and Recreation Association of America, Inc., New York City	54,016.74
Regents of the University of the State of New York, Albany	10,000.00
Riverside Church, New York City	1,020,833.33
Russian Zemstvos and Towns Relief Committee, Paris, France	10,000.00
Society of the New York Hospital, New York City	922,281.90

* These appropriations, while administered by The Rockefeller Foundation under the terms of the consolidation agreement, represent items which would not, in general, be included in the present program of the Foundation.

State Board of Public Welfare of the Commonwealth of Virginia, Richmond	$7,500.00
State Charities Aid Association, New York	25,061.56
State University of Iowa, Iowa City	112,372.61
Teachers College, Columbia University, New York City	100,000.00
University of California, Berkeley	51,943.74
University of Chicago, Illinois	5,000.00
University of Cincinnati, Ohio	9,618.66
University of Minnesota, Minneapolis	83,793.83
University of North Carolina, Chapel Hill	8,750.00
University of Toronto, Canada	35,000.00
Vocational Service for Juniors, New York City	15,457.96
Young Men's Christian Association College, Chicago, Illinois	15,277.31
Y. M. C. A. and Y. W. C. A. International Survey Committee, New York City	59,019.26
Miscellaneous	12,636.32
	$2,887,069.30
ADMINISTRATION	
Maintenance of New York, European, and Peiping offices	$797,487.33
	$17,477,225.02

Funds and Property

As of December 31, 1931

PRINCIPAL FUND	
Balance in The Rockefeller Foundation Principal Fund as of December 31, 1930	$142,675,978.13
Authorization allowed to lapse, reverting to the Principal Fund	275,000.00
	$142,950,978.13
Less amount transferred to the Reserve for Contingent Projects in accordance with a resolution of the Executive Committee dated January 14, 1931, and a resolution of the Board of Trustees dated December 16, 1931	1,575,000.00
Balance, December 31, 1931	$141,375,978.13

LAND, BUILDINGS, EQUIPMENT		
In China		
Shanghai. Land for medical school.	$298,331.95	
In New York		
Furniture and equipment of offices..	48,516.52	
In Paris		
Part interest in building occupied by Paris office.....	66,686.79	$413,535.26
		$141,789,513.39

INTERNATIONAL HEALTH DIVISION

CONTENTS

INTERNATIONAL HEALTH DIVISION

General Program

Public Health and Public Welfare

In times of economic stress measures connected with the preservation of health are apt to receive secondary consideration. What is true of personal health is true of public health. However, in the many countries of the world in which The Rockefeller Foundation is cooperating with official agencies in public health activities, these activities are with remarkable tenacity holding their own. Whatever may be said of industry and the economic situation, public health has not yet begun to suffer seriously.

To be sure there are no great forward strides, and no large amounts of new work are being undertaken; but the ground that has been conquered is being held. In many countries strenuous and even desperate efforts are being made to maintain the status quo in the hope that when times improve the work in public health can once more go forward without the waste of many years in regaining lost territory.

This general statement should not be interpreted too optimistically however. At least one

health authority in the United States [1] maintains that there is no justification for the thesis that hard times and good health go hand in hand. The bad effects of unemployment on public health, it is said, have been postponed, and no one can tell how long unfavorable business conditions can continue without causing an appreciable rise in the death rate. So far as the United States is concerned, it is considered one of the marvels of the last two years that unemployment, decreased wages, and lowered economic conditions have not yet adversely affected the general public health situation.

Nor is it any wonder that public health work in times of stress should show a considerable persistence. We have only to look back a little to see how thoroughly the public health movement has been intertwined with the roots of modern civilization. One of the staff members of The Rockefeller Foundation during 1931 published a number of papers giving a review of public health work throughout the ages, emphasizing the momentum and increased acceleration which this movement has been gathering. The foundations of the public health movement have been well laid. Beginning with primitive contributions from Egypt, Babylonia, India, China, Japan, and Palestine, they were greatly

[1] Louis I. Dublin, president of the American Public Health Association, 1931.

solidified and stabilized by the Greeks, who specialized in personal hygiene, and by the Romans, who started public hygiene. Hippocrates, one of the early Greeks, clearly laid down the fundamental concept of the need for scientific observation.

The Middle Ages witnessed the beginnings of quarantine. The important product of the seventeenth century for preventive medicine was the microscope. In the eighteenth century scurvy and smallpox were conquered. There was a renewed interest in altruistic endeavor of many kinds, including broad and fundamental efforts in public hygiene. The nineteenth century produced the immortal trio, Pasteur, Koch, and Lister. There were notable advances in infant, child, maternal, and industrial hygiene. There was substantial development in tropical medicine. The first steps in immunology were taken, and abundant proof was offered of the ancient surmise that insects carry disease. Renewed attention to these insects brought about immediate and important sanitary improvements.

In the twentieth century insect-borne diseases have been steadily retreating. Plague is far from being vanquished, but weapons are available by which it may be held in check. Typhoid fever has yielded wherever modern methods have been used. Sleeping sickness is no longer an

utterly hopeless problem. Public health services have been put on a firm footing by men whose names may not be known to everybody but who are nevertheless the new statesmen of public health. Modern research has revealed astounding facts with regard to the bodily defenses against disease.

Russell, P. F. Preventive Medicine in Retrospect. *The Journal of the Philippine Islands Medical Association*, 11: 127–145 (April) 1931; 177–198 (May) 1931; 297–318 (Aug.) 1931; 345–360 (Sept.) 1931.

Russell, P. F. Preventive Medicine. *The Journal of the Philippine Islands Medical Association*, 12: 25–30 (Jan.) 1932.

Thus looked at in retrospect, the world has traveled far along the highroads of public health; and it will continue to move forward even though there are in prospect countless leagues of further travel. Preventive medicine has gone on to wider and wider fields. It has passed from the individual to the community, from the community to the nation, and from the nation to the world, so that at present it has genuinely international aspects. It is at this stage of progress that The Rockefeller Foundation, through its world-wide activities, has attempted to cooperate in furthering a movement already well established. The emphasis is everywhere on the acquirement of such knowledge as will make possible more and more effective attention to the prevention of disease. Public health is closely tied up with the problem of medicine in general.

From dermatology to psychiatry, the ideals of prevention are beginning to pervade the study and practice of medicine. As Professor Welch of the Johns Hopkins University, the dean of public health teachers in the United States, has recently stated, "The highest aim of scientific medicine is the eradication of preventable disease."

Brief Review of The Rockefeller Foundation Public Health Program

Following its extensive early hookworm program and its emergency tuberculosis work in France, the Foundation in 1920, or a little over ten years ago, began to participate in the public health work that was being reestablished on a peace-time basis in many parts of the world. Two general purposes have underlain the many forms of public health work in which it has participated: the first of these is the acquirement of new knowledge in hygiene and public health by field and laboratory research; the second, extension of such knowledge through application of what is already known. In a number of countries there has been brought about, partly through Foundation efforts, a considerable investment in men, ideas, buildings, and equipment, now representing a constructive force in the public health work of the world.

The aim has not been to tread everywhere the beaten path, but rather to undertake such

activities as would be pioneering in spirit, sound in principle, and practical in purpose. At present, the keynote is support of existing projects rather than the launching of extensive new work. It is considered good statesmanship to aid in protecting such public health interests as have been established. In this way it may be hoped that the investment in the tangible and intangible matters pertaining to public health referred to above may be preserved.

In many countries work in which the Foundation has aided has already survived prosperity and depression, inflation and deflation, confidence and discouragement. One of the marks of modern public health work is not only that it is rooted in the past but that it builds for the future. The movement has been fortunate in enlisting the best efforts of a younger generation. Elsewhere in this report there is given an account of The Rockefeller Foundation fellowship program in public health, by which, within the space of a decade, more than a thousand selected young men who had already completed their medical and scholastic work were given opportunity to specialize in public health and to acquire the training which would fit them for careers in this field. The rule is that these men go back to their own countries, assuming key positions in the public health service. The program of sup-

port to public health schools and training centers also works strongly in the same direction in that it tends to recruit and enlist for lifelong service some of the best elements in the oncoming generation.

During 1931 the Foundation assisted the governments of forty-seven countries throughout the world and the health administrations of thirty-seven states in the United States in carrying on public health work. Aid was given to local as well as central health services. Contributions were continued to the Health Organization of the League of Nations, which is active in the international interchange of public health personnel and in maintaining a world-wide system of public health statistics and an equally wide service of epidemiological intelligence. In addition, the Foundation engaged in certain activities in connection with tuberculosis, respiratory diseases, undulant fever, and anemia, and in epidemiological studies and studies of sanitation and public health service. The program was in certain respects intensive, notably in the case of field research on hookworm disease, malaria, and yellow fever. The Foundation cooperates in measures for the control of these diseases, but the main effort is directed toward extending knowledge concerning them. Sections in the report which follows tell of recent

advancements in field research and give specific references to articles published in 1931 and early in 1932. All such references represent articles written by members of The Rockefeller Foundation staff or descriptions of work carried out under the auspices of the Foundation.

Yellow Fever

Yellow Fever Work Goes On

Within the twentieth century, few diseases have had a more engrossing history than yellow fever. All through the nineteenth century and well before that date, except for the vigilant defensive tactics of quarantine, the ports of the world were helpless against recurring waves of this death-dealing menace. Then, with the opening of the twentieth century came epoch-making developments.

First, Major Walter Reed and his associates, United States medical officers making a United States Government investigation in 1901 in Havana, showed that yellow fever is carried by the ordinary stegomyia mosquito, now known as *Aedes aegypti*. With this fact established, health officers started a number of campaigns against the yellow fever mosquito, and yellow fever was once and for all pushed back from the frontiers of civilization. Secondly, Stokes, Bauer, and Hudson, in 1927, in West Africa, by successfully

inoculating with yellow fever the common monkey of the zoological gardens, *Macacus rhesus*, provided science with its first laboratory animal for yellow fever studies. Experimental work with this animal threw a flood of light on yellow fever, enabling scientists to distinguish it from a number of similar diseases with which it had been confused, and above all leading to the revelation that it may exist in light form, dangerous but difficult to detect, turning certain hinterlands of civilization, notably in Africa, into constant and menacing reservoirs of the disease. A third and very recent achievement was the discovery by Dr. Max Theiler, of Harvard University, in 1930, that white mice can be inoculated with yellow fever, thus furnishing a second and more adaptable laboratory animal and opening up the road to fruitful work on a vaccine for yellow fever.

It should be made clear that Walter Reed's demonstration of the mosquito as the carrier of yellow fever was enough in itself to make possible the banishment of this scourge from such well-known and formerly harassed seaports as New Orleans, Havana, Panama, and Guayaquil. This was accomplished through control work centering on the mosquito. It could be done without a great deal of knowledge as to what yellow fever was or even as to what caused it.

It was enough to know that in the transmittal of the disease from man to man the mosquito was the culprit and that eliminating the mosquito meant eliminating yellow fever.

When for the first time in history a laboratory animal, the rhesus monkey, became available for yellow fever studies, the disease itself began to yield some of its secrets. It was revealed as a virus disease which could henceforth be properly classified with other virus diseases, of which there are a great many in the plant, animal, and human worlds, two of the most common being smallpox and the ordinary cold. An even more important revelation was that of its wide-spread existence in mild form, impossible of detection by ordinary medical methods. It became clear that the conspicuously successful campaigns referred to above had dealt with yellow fever in its virulent form, the form it takes when it leaves its native lair and rages among new, non-immune populations; they had but pushed the disease back into the remoter parts of the world from whence it had come. The insidious nature of yellow fever masquerading as a mild affection among distant native populations stood out as a new factor. With the further aid of the monkey there was made the beginning of an attempt to chart the regions in which this mild form of yellow fever lurks and from which it may at any

time break forth to work its well-known havoc among the other populations of the world. There is, moreover, full realization that this danger has been enormously increased by the greater rapidity of land, sea, and air travel and the rising susceptibility of populations in regions which have been freed of yellow fever.

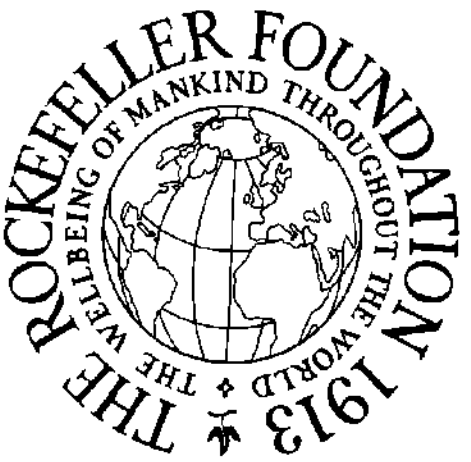
The hazards attending any attempt to beard yellow fever in its own den, both in Africa and in certain regions of South America, have been amply demonstrated by the numerous deaths occurring among scientists engaged in this task. Some method by which it might be possible to interrupt this series of deaths among laboratory workers has been urgently needed, and there is every indication that a good step forward in this direction has been taken by the development of a new vaccine against yellow fever, based directly on the use of white mice. It is a pleasure to note that this year The Rockefeller Foundation does not have to report any deaths from yellow fever among its personnel. No fatalities from the disease occurred among the staff during 1931.

Vaccination against Yellow Fever

The first vaccination of a human being against yellow fever by the new method occurred on May 13, 1931. Thus was brought to swift preliminary fruition the yellow fever laboratory work with

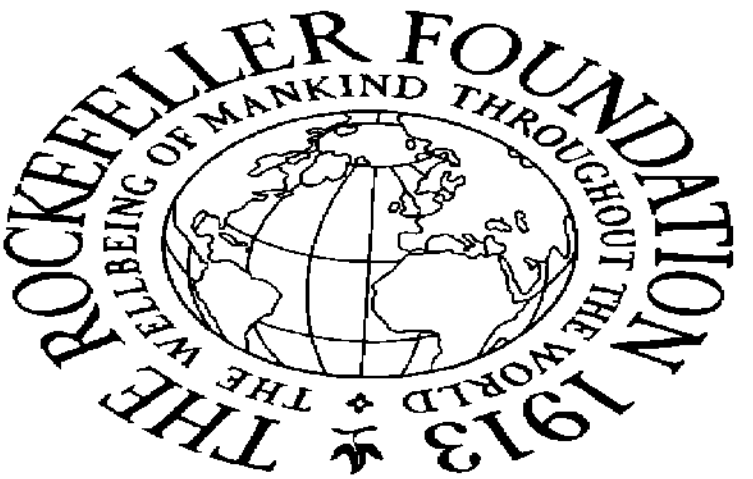
the mouse, the second animal to help man in his conquest of yellow fever.

It may be asked why the availability of such ordinary animals as monkeys and mice for yellow fever work was not discovered long ago. The actual story of what happened in the case of mice is illuminating in this respect. Attempts to transmit yellow fever to mice by the usual method of inoculation had proved entirely fruitless. Hence mice, with other animals, were passed by. It was only when the white mouse was inoculated intracerebrally that results were obtained. Even so, yellow fever in the mouse bears little resemblance to yellow fever in man. In the mouse it takes the form of an encephalitis. In this animal the virus is neurotropic, instead of viscerotropic as in man. We have in the mouse, then, an entirely different form of yellow fever with exactly the same causal agent. Moreover, even after this initial step had been taken it was found that for the mice to be of any use for immunity tests in yellow fever field work the tests in which they were employed had to be made more sensitive and regular. It was found that this increased sensitiveness and regularity could be produced if the virus and the blood serum to be tested were introduced into anesthetized mice intraperitoneally and if at the same time a mild irritant was injected intracerebrally



Photograph Excised Here

Room in the Foundation's Yellow Fever Laboratory in Bahia, Brazil, where protection tests on mice are carried on.



Photograph Excised Here

Mosquito squad in Nigeria, West Africa, receiving instruction in the method of catching adult insects for use in laboratory studies of yellow fever.

to localize the virus. It was shown, further, that if immune serum, by which is meant the clear liquid portion of the blood from a human being or animal that has had yellow fever and is therefore immune to further attacks, is injected in suitable amount into the mouse's abdomen with the virus, the animal is protected and suffers no harm from the injection of the virus.

The next step was to stabilize the virus, so that scientists would have available a substance which was uniform in its reactions and capable of producing the desired effects with certainty. After many passages through mice, the virus becomes highly virulent for these animals, and the incubation period becomes short and constant. At the same time the virus loses its power to kill rhesus monkeys, although it does continue to produce fever in these animals; in other words it assumes the character of what is known as a fixed virus.

With a virus having stable and dependable qualities it was possible to develop further a protective procedure involving inoculation with yellow fever virus and the simultaneous administration of yellow fever immune serum. It was shown that these combined injections developed active immunity in monkeys. Presumably they would do the same to human beings.

This has been verified. Between May 13 and June 29, 1931, ten persons were vaccinated.

Photograph Excised Here

Market place in Ibadan, Nigeria, one of the West African towns in which yellow fever studies are being conducted.

Photograph Excised Here

Nigerian boy with a merchandise basket

Before vaccination the sera of these persons were without protective power, i.e., they did not protect from death animals inoculated with yellow fever virus. After vaccination the sera from these persons, in every case, had protective power against yellow fever virus both in monkeys and in mice. Persons who have been vaccinated are in the same class as persons who have had yellow fever. Since it is well known that anyone who has survived an attack of yellow fever is immune to the disease for the rest of his life, vaccinated persons are presumably similarly protected, but time will be required to determine with exactness the duration of their immunity.

According to the latest information, sixteen persons have been vaccinated against yellow fever in the Foundation's yellow fever laboratory in New York, and in addition three persons in Nigeria and Brazil have been immunized with material sent from this laboratory. Vaccination has so far been tried only on persons engaged in yellow fever laboratory or field work. The aim has been to give immediate protection to the small group of highly exposed workers. Immunization or protection is produced by a single injection of a dried mixture of yellow fever virus fixed for mice and human immune serum, with separate injections of additional serum to make up the amount required for protection. The

immunizing substance can be shipped from the laboratory and used elsewhere, as was actually done in the three cases referred to above. The amount of serum required in vaccination varies as the body weight and seems to be independent of the virulence of the strain used.

The immunizing reaction after vaccination seems to be part of a true infectious process. So far as protective power is concerned, it has an effect similar to that of an attack of yellow fever. What we have now is a reasonably safe method of producing demonstrably active immunity in human beings. It has been shown in tests that the mixture of fixed virus and immune serum retains its immunizing power for eight months when dried in a frozen state and sealed in glass.

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Incidence and Control of Yellow Fever

The Rockefeller Foundation's research work on yellow fever is carried on in three laboratories;

one of these is located in West Africa, at Lagos, Nigeria, another at Bahia, Brazil, and the third in New York City. Between the laboratories in the regions of Africa and South America where yellow fever is endemic and the laboratory in New York there is close cooperation. Material from the field is studied in all three laboratories.

In addition to its laboratory and field research on yellow fever, the Foundation has from year to year been active in control work. During 1931 it assisted the government authorities of Brazil in extensive preventive operations against the disease. This service was extended over a number of states. Many small towns were included in the control measures, which took the form of careful supervision of the domestic water supply to prevent the breeding of the mosquito which carries yellow fever. As a result of this work the mosquito index has remained low and the disease has been kept well in hand. There were no epidemics or conspicuous outbreaks of yellow fever either in Brazil or elsewhere during 1931.

From reports issued by the League of Nations it may be learned that the total number of cases of yellow fever recorded all over the world during 1931 was 123, of which eighteen were suspected cases. Forty-one deaths were recorded. From Africa were reported seventy cases and seven-

teen deaths. The other cases and deaths were reported from South America, with twenty-four deaths recorded for Brazil.

As has been stated above, yellow fever is widely prevalent in certain regions in a form so mild as to be practically undetectable except by laboratory methods involving the use of test animals. The foregoing figures take no count of the subclinical and mild cases of yellow fever occurring among native populations in the interior.

Experiments with Mosquitoes

Since most of the work for the control of yellow fever intimately touches the life habits of the mosquito, a considerable amount of effort has been directed toward increasing knowledge of the insect carrier of the disease. As was explained in the report of The Rockefeller Foundation for 1930, a number of mosquitoes other than *Aedes aegypti* have been found capable of transmitting yellow fever and may therefore enter the picture so far as control work is concerned.

During 1931 *Culex* (*Culex*) *thalassius* Theobald was definitely added to the incriminated list, and *Mansonia* (*Mansonioides*) *uniformis* Theobald was found to produce the disease when emulsified and injected subcutaneously into rhesus monkeys. Investigation of these species of mos-

quito was deemed important because they are abundant in certain sections of West Africa, because they enter houses, and because they bite man with great frequency. *Culex thalassius* occurs throughout tropical and southern Africa, but appears to be confined to a relatively narrow zone along the coast. *Mansonia uniformis* is abundant in a relatively narrow coastal zone, diminishing in the forest belt and becoming rare in the interior. In Nigeria this species is abundant in the environs of Lagos but is not found in the city itself or in the larger interior cities of Ibadan, Zaria, and Kano.

Culex thalassius proved to be an inefficient vector in comparison with *Aedes aegypti.* However, the density of the species is known to be very great at certain places and this may compensate to some extent for its relative inefficiency, making it of some importance epidemiologically. *Mansonia uniformis* could not be kept alive in captivity long enough to demonstrate conclusively its ability to transmit yellow fever by biting, but compared with *Aedes aegypti* it also is not an efficient vector, although it may play a part in yellow fever epidemiology in places where the species is abundant.

The question of the effect of temperature on mosquito breeding is of importance in explaining the fact that yellow fever does not become

endemic in certain parts of the world. At the Bahia laboratory experiments were performed on colonies of *Aedes aegypti* mosquitoes to determine the effect of different temperatures on their vital activities. It was found that at 36° C. the colony was unable to maintain itself in the second generation, the high temperature shortening the life of the adults, diminishing blood-sucking, and destroying fertility. At 19° C. conditions were apparently favorable. At 18° C. the mosquitoes did not feed well, but vital activities were continued at a pace adequate for the maintenance and even increase of the numerical strength of the colony.

In the literature dealing with the effect of cold weather in limiting the propagation and spread of yellow fever through failure of the mosquito host, attention has been directed chiefly to the adult stage of the insect and secondarily to the larval and pupal stages. Experiments to determine the effect of cold and heat upon fresh and matured stegomyia eggs were conducted at the Bahia laboratory. It was demonstrated that actual freezing kills practically all eggs of both types after relatively short exposure and that very high temperatures have an injurious effect, especially upon fresh eggs. Exposure to temperatures of 40° C. to 45° C. killed stegomyia eggs rapidly. Matured eggs were slightly more

resistant than fresh. In nature, unfortunately, probably the majority of eggs are deposited indoors or in sheltered places where they are not subjected to extreme temperatures.

Another series of experiments in the laboratory in Bahia was devoted to determining whether modifications in temperature would affect the length of time required for incubation of infective yellow fever virus in *Aedes aegypti*. Carter's work in Mississippi in 1898 had established the normal average period of extrinsic incubation of the virus as from twelve to fifteen days. In the Brazilian experiments it appeared that the period was shortened at high temperatures and prolonged at low temperatures, the insects acquiring the ability to infect after four days at 37° C., after five days at 36° C., after six days at 31° C., and after eighteen days at 21° C. After thirty days at 18° C. the mosquitoes were not able to transmit the disease, but upon being subjected to room temperature for an additional six days they became infective, which indicates that the virus had undergone some development even at the lower temperature. There was no loss of virulence in the virus even when the mosquitoes had been kept for four weeks at 8° C. and later subjected to 36° C. for six days.

From further experiments with *Aedes aegypti* in West Africa, it appears that the transfer of

yellow fever virus from infected females to copulating males occurs in nature so infrequently that the possibility need not be considered as a factor in the perpetuation of the disease. This conclusion supports other evidence that yellow fever virus in infective quantities cannot be maintained indefinitely among mosquitoes without some suitable intermediary host.

A series of biting and injection experiments was planned to demonstrate the existence of active virus in mosquitoes in certain regions. Positive results were obtained in one injection experiment involving 156 mosquitoes caught in native houses in the town of Ife, Nigeria, where an epidemic occurred in 1928, and suspicious cases in 1929; but in the other experiments, in which larger numbers of insects were used, the results were negative. It appears, therefore, that the actual number of virus carriers in any such collection of mosquitoes must be very small, so that this method would not seem to constitute a satisfactory aid in demonstrating or confirming the existence of active infection in any area.

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Studies of the Virus of Yellow Fever

During the year a short paper was published on the survival of *Leptospira icterohaemorrhagiae* in old cultures. This organism is the causal agent in leptospiral jaundice, a disease somewhat resembling yellow fever, but it has been eliminated as the cause of yellow fever, now known to be a virus disease.

The actual nature of yellow fever virus is as yet little known. There is doubt about its chemical composition, its physical structure, and even about whether it is alive or not. The question as to the chemical nature of viruses in general involves chemical isolation of these infecting agents from the proteins with which they are associated. In a series of experiments, rabbits were inoculated repeatedly with active

yellow fever virus contained in mosquitoes and in monkey serum. It was thought that if the rabbits developed precipitins against the virus, this would indicate that the virus is protein in character. However, the virus of yellow fever in mosquitoes was found to engender in rabbits neither precipitins nor protective bodies against the same virus contained in monkey blood. Large amounts of the virus from the blood of infected monkeys also failed to engender in rabbits demonstrable precipitins against the virus in mosquitoes. There were engendered in relatively small amounts protective bodies against monkey blood virus. It would seem that mosquito virus differs qualitatively from monkey blood virus in its power to engender protective bodies in rabbits. However, it cannot be said that definite conclusions are as yet warranted.

An attempt was made to throw light on the nature of the reaction by which yellow fever immune serum protects animals against infection. Electrophoresis experiments completed during the year indicate that the virus of yellow fever travels toward the negative pole in alkaline fluids and toward the positive pole in acid fluids. Yellow fever virus appears to travel with hemoglobin regardless of charge and to be inactive in fluids tha have more than a certain degree of acidity.

Like most invisible agents of infectious diseases the virus of yellow fever has not been cultivated on any of the usual bacteriological media. Experiments indicate that this virus, like other filtrable viruses, needs living cells for growth in any medium. The yellow fever virus is extremely labile and is changed or destroyed by the most minute and undetermined changes in the culture medium. But it is possible to grow the virus indefinitely in the laboratory in the presence of living tissues by methods successfully developed for other filtrable viruses.

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Complement Fixation Tests

It has been explained in former Foundation reports that a laboratory test for yellow fever not requiring the use of animals would be both cheaper and more convenient than the tests now

used. At present it is necessary to employ what are known as protection tests in order to detect persons who have had yellow fever, and these involve the use of either monkeys or mice. The complement fixation test would not require animals; but certain studies in which this has been employed have given inconclusive results. However, other studies involving the use of dried infective monkey serum as an antigen showed the test to be successful in four out of seven cases, but not sensitive enough to detect every person who had had yellow fever.

In a further study a difference was found between the percentage of positive complement fixation reactions in postepidemic samples and in samples from non-endemic areas. It is concluded that the complement fixation test may be useful in field studies of yellow fever where the problem is to outline areas recently epidemic. Positive complement fixation tests could generally be confirmed by positive protection tests and, similarly, negative protection tests were usually confirmed by negative complement fixation tests. However, an appreciable number of sera giving protection showed negative results with the complement fixation technique. This would seem to indicate that the latter test is not as sensitive or as exact as the protection test, and that it is less constant and less permanent in

character. An incidental conclusion of this study was that available data failed to show that the acquisition of immunity was related to sex, age, or race.

The possibility of low fatality rates in natives of endemic or previously endemic areas must be taken into consideration in studying the distribution of yellow fever. In other words, the disease may occur quite generally in light form. A large part of the native population seems to be able to develop immunity without having the symptoms of the disease. This phenomenon is not limited to the black race. Some investigators suggest that this may be an hereditary immunity or at least an hereditary resistance. This would mean that the inhabitants of endemic areas are inheriting the protective mechanism.

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Pathology in Yellow Fever

While the work on yellow fever connected with mosquitoes, experimental animals, and control

methods has been going forward, close attention has also been paid to the symptoms of the disease.

It is well known that the kidneys are severely and characteristically injured in yellow fever. These injuries have been studied in great detail. Another symptom of yellow fever carefully charted is bradycardia, or slowing down of the heart-beat. A close study was also made of degenerative changes occurring during yellow fever in the myocardium, or muscular substance of the heart.

During the year additional papers were published dealing with metabolism and chemical processes as affected by the course of yellow fever. The protein concentration in the serum of monkeys diminishes during yellow fever. A study was made of this as well as of other characteristics of monkey serum. The response of the blood sugar to dextrose in monkeys ill of yellow fever was given attention, and it was found that the tolerance for sugar is diminished.

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Malaria

New Light on Mosquito Behavior

It has long been a puzzle as to why malaria occurs in certain portions of southern Europe and not in others. It is well known that a single mosquito, *Anopheles maculipennis*, is the chief carrier of malaria in this region. However, sometimes the disease does not occur even where the guilty mosquito is most numerous. If the regions with and without malaria in this part of Europe are charted, the result is a most irregular map. A recent thought has been that the explanation of this irregularity might lie in the

presence of two different strains of *Anopheles maculipennis*, one of which has a preference for the blood of domestic animals while the other feeds impartially on that of animals and human beings. Then wherever the zoophylic, or animal-loving, strain of mosquito was predominant there would be an absence of malaria. It has been conjectured that, along with advances in husbandry and the gradual encroachment of civilization, a certain proportion of this mosquito species might, during the course of many years, have transferred its chief allegiance from human beings to domestic animals.

The question was how could these two strains belonging to the same species be differentiated. Ever since the mosquito was discovered, certain physical characteristics of the adult insect or, in some cases, of the larva have been used for purposes of identification and for distinguishing one species from another. In the case of *Anopheles maculipennis* a close study was made of the eggs to see whether they offered any means of identifying and distinguishing the two strains, and it was found that there did seem to be two kinds of eggs. This fundamental suggestion was first made by Falleroni in 1926. The two types of eggs may be briefly referred to as the barred egg and the dappled egg, although a number of other markings and characteristics also enter into con-

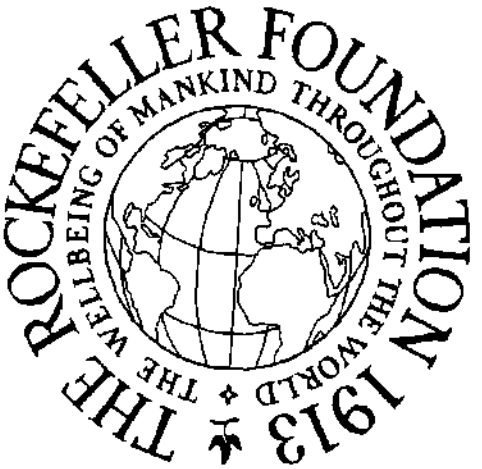
sideration. The barred-egg mosquito belonging to the *Anopheles maculipennis* species is found everywhere, but it predominates in non-malarious regions. On the other hand, the dappled-egg mosquito of the same species abounds in numbers proportionate to the amount of malaria. The suggestion that eggs might be used as a means of distinguishing different strains has been confirmed in many areas of Germany and Italy. It is therefore now possible to speak of two races of this mosquito, first the *Anopheles maculipennis messeae* Falleroni, and second the *Anopheles maculipennis labranchiae* Falleroni. No sweeping conclusion can be made as to whether this distinction in maculipennis races always holds. Not all parts of Europe where this mosquito occurs have been studied; but if the distinction does hold, we have here a new means by which the mosquitoes that prefer human blood may be easily and swiftly recognized.

Martini, E., A. Missiroli, and L. W. Hackett. Versuche zum Rassenproblem des *Anopheles maculipennis*. *Archiv für Schiffs- und Tropenhygiene*, 35: 622–643, 1931.

Hackett, L. W., E. Martini, and A. Missiroli. The Races of *A. maculipennis*. *The American Journal of Hygiene*, 16: 137–162 (July) 1932.

Further Studies of Mosquitoes

The above-mentioned investigations are examples of intensive study of a single species of mosquito, known to be responsible for the



Photograph Excised Here

Courtesy of the American Museum of Natural History

Anopheles maculipennis.

Photograph Excised Here

Barred eggs of A. maculipennis messeae

Photograph Excised Here

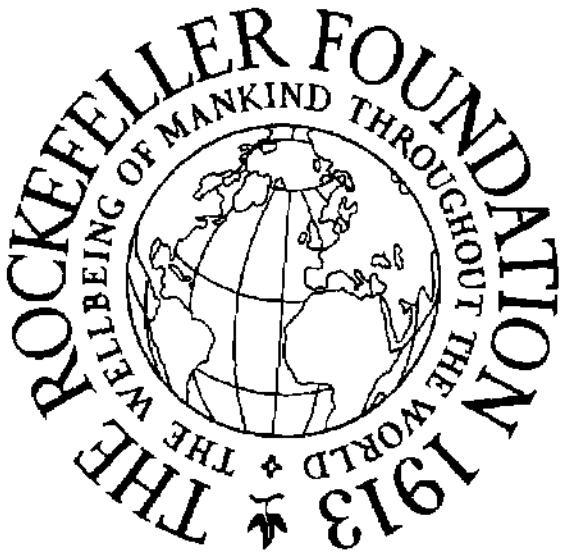
Dappled eggs of A. maculipennis labranchiae

Two types of *Anopheles maculipennis* eggs. Surveys in various sections of Italy and Germany have shown that the barred-egg mosquito predominates in zones of anophelism without malaria, while the dappled-egg mosquito is found in areas where malaria is actually or potentially present.

spread of malaria in certain parts of Europe. But malaria is carried by a great many species of anopheline mosquitoes, and wherever malaria occurs it is of prime importance to find out which species is chiefly responsible for the presence of the disease, and especially to learn whether the particular species incriminated has any peculiar habits with regard to choice of breeding places which the skilful sanitarian may turn to account in preventing reproduction of the mosquito.

During the year a new variety of *Anopheles* was discovered and described in the Philippine Islands, *A. lindesayi benguetensis*. The markings on the wings of this mosquito were slightly different from those of any variety of this species listed by Christophers in 1931. The description was also given of the larva of *A. gigas formosus* Ludlow (1909), which had not previously been described.

A complete study of the so-called *rossi-ludlowi* group of Philippine anophelines was also made. Five species belonging to this group are found in the Philippine Islands. Their characteristics and their habits were described, and an account was given of other places where they occur. Likewise three species of Philippine mosquitoes belonging to the *funestus-minimus* subgroup, one of which had been confused with the other two, were carefully described, and the nomenclature



Photograph Excised Here

Members of the staff of the Division of Malariology of the Ministry of Health of Greece examining school children near Komotini for evidence of splenic enlargement, one of the signs of malaria infection.

was straightened out. The *Anopheles minimus* is the principal carrier of malaria in the Philippines. Its control is discussed in a paper recently published. There is some evidence to indicate that this mosquito can be controlled by simple irrigation measures. By periodically closing and opening a dam in the stream in which it breeds, the larvae can be flushed out or stranded. This procedure, together with the distribution of Paris green or other cheap larvicides, may make possible the reduction of *A. minimus*, thus strengthening the first line of defense against the encroachment of malaria. With decreases of budgets for public health staffs occurring everywhere, inexpensive means of malaria control are more important than ever.

Mention has been made in former reports of *Anopheles darlingi* Root, a new mosquito species now thoroughly incriminated as a malaria carrier. In 1931 infected specimens of this mosquito were captured in Itapira, Bahia, the third place in Brazil where the species has been found naturally infected. The other two places from which it has been reported are Belém in the state of Pará, and França in the state of Bahia. A report from França states that of 240 specimens of *A. darlingi* Root dissected, sixty-nine were found to be infected, and that among 215 salivary glands of the mosquitoes, sixteen, or 7.4 per cent, showed the

sporozoites, which means that these mosquitoes were ready to infect human beings with the malaria organism.

From Pará, Brazil, another new species of *Anopheles* was reported, to which was given the name *Anopheles shannoni.* Thirteen specimens were captured. This species is probably not a malaria transmitter.

Two new species of the *Culex* mosquito from Nigeria were described. Eight species of *Uranotaenia* were found in and about Lagos, Nigeria, and two proved to be new. The new specimens described are *Uranotaenia philonuxia* and *Uranotaenia caliginosa.* Thus the work of tracking down, studying, and charting mosquitoes goes forward.

In a former Rockefeller Foundation annual report mention was made of an interesting case of migration whereby a dangerous malaria-carrying mosquito, *Anopheles gambiae* Giles, originally at home in Africa, found its way to Brazil. It was first seen in South America, in March, 1930, and the supposition is that it was carried over by aircraft or rapid mail boats from Dakar, Africa, its original home, to Natal, Brazil, where it promptly brought about a severe outbreak of malaria. It is evident that the species can adapt itself to the new environment in South America. Its distribution in northeastern Brazil will prob-

ably remain highly localized, but it may be spread to other coastal regions by aeroplane traffic and coastwise vessels. There is also the possibility that trains and automobiles may carry it to the interior. Since the larvae of *A. gambiae* occur chiefly in sun-exposed waters, this species would become dangerous with indiscriminate land clearing in forested regions.

The most important malaria carrier in Porto Rico is *Anopheles albimanus*. The life history of this species has been carefully studied. Data on the egg laying and on the larva hatching of *A. albimanus* and *A. grabhamii* have been presented in an article published in *The Porto Rico Journal of Public Health and Tropical Medicine.*

King, W. V. The Philippine Varieties of *Anopheles gigas* and *Anopheles lindesayi*. *The Philippine Journal of Science*, 46: 751–757 (Dec.) 1931.

King, W. V. The Philippine *Anopheles* of the *rossi-ludlowi* Group. *The Philippine Journal of Science*, 47: 305–342 (March) 1932.

King, W. V. Three Philippine *Anopheles* of the *funestus-minimus* Subgroup. *The Philippine Journal of Science*, 48: 485–524 (Aug.) 1932.

Russell, P. F. The Control of *Anopheles minimus* Mosquito Larvae in the Philippines by Stranding and Flushing. First. Report. *The Philippine Journal of Science*, 47: 439–447 (April) 1932.

Davis, N. C., and H. W. Kumm. Further Incrimination of *Anopheles darlingi* Root as a Transmitter of Malaria. *The American Journal of Tropical Medicine*, 12: 93–95 (Jan.) 1932.

Kumm, H. W. Observations on Two Malaria Vectors and Distribution Records of Other *Anopheles* in the States of Bahia and Sergipe, Brazil. *Annals of Tropical Medicine and Parasitology*, 26: 1–6 (March) 1932.

Davis, N. C. A New Anopheline Mosquito from Pará, Brazil. *The American Journal of Hygiene*, 13: 345–348 (Jan.) 1931.

Philip, C. B. Two New Species of *Uranotaenia* (*Culicidae*) from Nigeria, with Notes on the Genus in the Ethiopian Region. *Bulletin of Entomological Research*, 22: 183–193 (June) 1931.

Shannon, R. C. *Anopheles gambiae* in Brazil. *The American Journal of Hygiene*, 15: 633–663, (May) 1932.

Earle, W. C. Notes on the Life History of *Anopheles albimanus* and *grabhamii*. *The Porto Rico Journal of Public Health and Tropical Medicine*, 7: 381–384 (March) 1932.

Russell, P. F. Dental Instruments for Mosquito Dissection. *The American Journal of Tropical Medicine*, 11: 359 (Sept.) 1931.

Russell, P. F. A Method for Feeding Blood Meals to Mosquitoes, Male and Female. Preliminary Note. *The American Journal of Tropical Medicine*, 11: 355–358 (Sept.) 1931.

Bird Malaria

It was in the course of a study of bird malaria that Ross, in the Nineties of the last century, made the original observations on which was based the momentous conclusion that mosquitoes carry malaria. Since that time the study of avian malaria has been continued for the light it may throw upon problems connected with human malaria. Recently, two species of *Culex* were studied with regard to the inheritance of natural immunity to *Plasmodium cathemerium*, one of the malaria organisms found in birds. Susceptibility and non-susceptibility of *Culex pipiens* to this organism seemed to behave in the manner of hereditary characters, susceptibility being recessive. Conjectures are made as to whether the susceptibility of anopheline mosquitoes to malaria is hereditarily determined and whether, in that case also, it might be a recessive character.

Birds were also used to determine whether infection with *Plasmodium cathemerium* could be prevented by injections of plasmochin, a quinine substitute, in daily small doses. This drug did appear to have a transitory protective power, lasting a few hours, but the action of the drug is therapeutic rather than prophylactic.

Blood smears were taken and examined from over six hundred birds of more than forty species, in the Philippine Islands. About 10 per cent were positive for the parasites of malaria. At least one bird common in Manila, the mountain sparrow, was exonerated as a carrier of bird malaria. A new species of *Plasmodium* was encountered in the quail. The organism has been observed for more than a year and has been given the name of *Plasmodium capistrani.* Descriptions and drawings were presented of this new species which now constitutes one of the six species of avian malaria parasites recognized by students of the subject.

Huff, C. G. The Inheritance of Natural Immunity to *Plasmodium cathemerium* in Two Species of *Culex*. *The Journal of Preventive Medicine*, 5: 249–259 (July) 1931.

Russell, P. F. Avian Malaria Studies. I. Prophylactic Plasmochin in Inoculated Avian Malaria. *The Philippine Journal of Science*, 46: 305–345 (Nov.) 1931.

Russell, P. F. Avian Malaria Studies. II. Prophylactic Plasmochin versus Prophylactic Quinine in Inoculated Avian Malaria. *The Philippine Journal of Science*, 46: 347–361 (Nov.) 1931.

Russell, P. F. Avian Malaria Studies. III. The Experimental Epidemiology of Avian Malaria. Introductory Paper. *The Philippine Journal of Science*, 46: 651–679 (Dec.) 1931.

Russell, P. F. Avian Malaria Studies. IV. *Haemoproteus* and *Plasmodium* in Birds of Luzon, Philippine Islands. *The Philippine Journal of Science*, 48: 263–268 (June) 1932.

Russell, P. F. Avian Malaria Studies. V. *Plasmodium capistrani* Sp. nov., an Avian Malaria Parasite in the Philippines. *The Philippine Journal of Science*, 48: 269–289 (June) 1932.

New Side-Lights on Control Methods

Malaria is a disease taking many forms. It is impossible to lay down any simple rules by which it can be controlled; everything depends upon the nature of the country, the habits of the mosquito concerned, and the customs of the people whom it is sought to protect. In almost every country it is possible to attack the malaria problem in a way that is best for that particular locality. A study of the malaria problem of the State of New Mexico showed the disease to be present in three widely separate regions, with *A. maculipennis* in all likelihood the chief carrier. The aim is to check the disease before it gets thoroughly established in these regions. The usual control methods are advocated. These include the use of fish to eat the mosquito larvae, always found only in water; the use of larvicides on the water to kill the larvae; the installation of irrigation, in order to make it difficult for mosquitoes to breed; and finally the education of the population with regard to malaria prevention and the treatment of those who have the disease.

Paris green has by this time established itself in a number of places as a satisfactory larvicide

for use in mosquito control. A small quantity is generally mixed with a large amount of road dust or other diluent, and the mixture is spread upon the waters by blowers or other mechanical means, sometimes even by aeroplane. In the Philippine Islands, where road dust is not always available, a study was made of the efficacy of powdered charcoal as a vehicle for Paris green. Charcoal dust is cheap and serves the purpose, though it acts as a supporter for the Paris green or other chemical rather than as a diluent. A careful study was made of other arsenic compounds cheaper than Paris green, with the aim of reducing the expenses of malaria control; but it was found that no other compound is as effective as Paris green. Fortunately the most dangerous of all Philippine Island mosquitoes, *A. minimus*, is the first to succumb to this larvicide.

In West Africa an experiment was made to determine whether mass treatment with plasmochin, the synthetic quinine already mentioned, would be a practical antimalaria measure. Small doses of the drug were administered. Before this was done, in the spring of 1931, 1,350 mosquitoes of the locality were dissected and, among them, 4.6 per cent were found infected. After the plasmochin had been administered 3,860 mosquitoes were dissected and

only 0.4 per cent were found to be infected, indicating a great drop in gametocyte carriers among the population. It seems as if the plasmochin treatment sterilized the human carriers, so that mosquitoes could no longer, in biting human beings, pick up and transmit the malaria organism. This particular study was made in a region where practically 100 per cent of the children have malaria and where the parasite index of adults may be as high as 80 per cent. The anopheline density also is very high. Where malaria is as prevalent as it is in this case, mosquito dissection furnishes a convenient means of measuring the results of control work. It would require additional and more extensive experiments to show whether mass treatment with plasmochin would be a practical means of malaria control in regions where the application of the usual antimosquito measures is for some reason either difficult or impossible.

A method commonly used to ascertain whether malaria is present in a population is spleen palpation, since enlargement of the spleen is one of the signs of this disease. During the year a study was made in Panama to determine the influence of race on spleen enlargement, and evidence was obtained indicating that splenomegaly is more constant in the mestizo of Panama than it is in the negro.

Work was also done in connection with the technique of counting malaria parasites in the blood, with the aim of adapting this technique to field work and using it in areas where individuals are lightly infected. Other methods of malaria diagnosis are subject to various errors; and while it cannot be said that the counting of malaria parasites is an entirely accurate method, it has considerable value as a diagnostic technique.

Studies in southern Nigeria, Africa, offered little evidence of any racial immunity to malaria. The degree of malaria infestation was found to be high at all ages up to middle life. Natives do not acquire complete tolerance to the effect of malaria parasites at least up to middle age.

In the Philippines, the habits and resting places of adult mosquitoes during the daytime were subjected to careful observation, with the aim of improving the technique of catching adult mosquitoes for the purpose of dissection and observation.

In India, in the state of Mysore, a great many mosquito dissections were carried out, but only a small number of mosquitoes were found to be infected with malaria. Such dissections come under the heading of routine laboratory work in connection with the control of malaria.

Barber, M. A., and L. R. Forbrich. Malaria in the Irrigated Regions of New Mexico. *United States Public Health Service Reports.* In press.

Photograph Excised Here

Bullock cart used for distributing Paris green mixture along the lake front in Managua, Nicaragua, for the control of the malaria mosquito.

Photograph Excised Here

In Salvador the gunny sack has been used most successfully for spreading Paris green mixture along the banks of narrow streams and through seepage areas.

Photograph Excised Here

Dusting a Panama swamp with Paris green mixture by airplane

Russell, P. F., and A. P. West. Charcoal as a Diluent for Paris Green in the Destruction of *Anopheles* Larvae. Larvicide Studies 1. *The Philippine Journal of Science*, 48: 291–297 (July) 1932.

West, A. P., and P. F. Russell. Paris Green Adsorbed on Charcoal as a Larvicide for *Anopheles* Mosquitoes. Larvicide Studies II. *The Philippine Journal of Science*, 48: 545–562 (Aug.) 1932.

Russell, P. F., and A. P. West. Some Studies in the Larvicidal Effects of Arsenicals Other than Paris Green against *Anopheles* Larvae. Larvicide Studies III. *The Philippine Journal of Science*, 49: 97–103 (Sept.) 1932.

West, A. P., and P. F. Russell. Experiments with Various Toxic Substances Partially Adsorbed on Charcoal as *Anopheles* Larvicides. Larvicide Studies IV. In press.

Barber, M. A., J. B. Rice, and J. Y. Brown. Malaria Studies on the Firestone Rubber Plantation in Liberia, West Africa. *The American Journal of Hygiene*, 15: 601–633 (May) 1932.

Carley, P. S. The Influence of Race in Malarial Splenomegaly in Panama. In press.

Earle, W. C., and M. Perez. Enumeration of Parasites in the Blood of Malarial Patients. *The Journal of Laboratory and Clinical Medicine*, 17: 1124–1130 (Aug.) 1932.

Barber, M. A., and M. T. Olinger. With an Appendix by P. Putnam. Studies on Malaria in Southern Nigeria. *Annals of Tropical Medicine and Parasitology*, 25: 461–508 (Dec. 31) 1931.

Russell, P. F. Daytime Resting Places of *Anopheles* Mosquitoes in the Philippines. First Report. *The Philippine Journal of Science*, 46: 639–649 (Dec.) 1931.

Sweet, W. C., and B. A. Rao. Dissections of Female Anophelines in Mysore State. *Records of the Malaria Survey of India*, 2: 655–657 (Dec.) 1931.

Stratman-Thomas, W. K. On the Supposed Antagonism between Alfalfa and Malaria. *The American Journal of Hygiene*, 14: 394–410 (Sept.) 1931.

Control of Malaria

The Rockefeller Foundation has for a number of years cooperated with governments in many parts of the world in the control of malaria. During 1931, by providing funds or the advisory services of field representatives, it assisted five states in the United States and the health

THE ROCKEFELLER FOUNDATION 1913 ✱ THE WELLBEING OF MANKIND THROUGHOUT THE WORLD

Photograph Excised Here

First steps in the work of inundating a lagoon in Durrsi, Albania, with sea-water to control the breeding of the malaria vector, *Anopheles elutus*. The photograph above shows the opening of a canal into the sea. Below, the salt water is seen flowing into the lagoon. Further steps planned are the construction of sea-walls and a tide-gate.

administrations of twenty-four foreign governments to carry on antimalaria work consisting of control programs, field studies and research, and the training of personnel. The five states of the United States receiving aid were Georgia, Louisiana, Mississippi, South Carolina, and Virginia. The foreign countries in which assistance was given were Grenada, Jamaica, Porto Rico, Costa Rica, Guatemala, Honduras, Nicaragua, Panama, Salvador, Venezuela, Albania, Bulgaria, Corsica, Germany, Greece, Italy, the Netherlands, Rumania, Spain, Yugoslavia, Ceylon, India, Palestine, and the Philippine Islands.

We shall attempt only brief mention of certain new aspects of the work carried on in 1931. Many other projects begun in former years were maintained and advanced. In Panama funds were designated for a malaria control demonstration in selected districts comprising five towns. This was started in the spring and is supervised by a Rockefeller Foundation field staff member. In Rumania funds were provided to establish at a hospital near Jassy a permanent station for comparative studies of malaria. The work is under the direction of Professor Michel Ciuca of the University of Jassy. Work was begun at the Station for Malaria Research in Tallahassee, Florida, in cooperation with the Florida State Board of Health. The services of

the Director of the Station, a Foundation field staff member, were made available to any southern state, as consultant on malaria problems.

Hookworm and Other Intestinal Diseases

Continued Researches on Vermifuges

In the course of the year there were published a number of papers dealing with medicaments for expelling the hookworm. This is a subject on which during the past fifteen years a great deal of research has been done. A number of fairly good vermifuges have been known for some time. But as new knowledge has been acquired, one drug after another has gradually been discarded in favor of something just a little better.

In a paper reviewing this entire subject, it is pointed out that because of the great differences in the structure and physiology of intestinal worms and in their location within the host, no one remedy can remove all types of these parasites. Chemotherapy, to be successful, must be based on a knowledge of the physiology and the life cycle of the various parasites. A recent study of all the substances that have been used in combating such intestinal inhabitants as *Ascaris*, *Trichuris*, *Enterobius*, and the hookworm has shown two of these to be safe and efficient anthelmintics, namely, tetrachlorethylene and hexylresorcinol, the former for uncomplicated

hookworm infections, and the latter as an effective remedy also against certain parasites other than the hookworm.

Although many of the drugs in use are, comparatively speaking, almost entirely safe, yet when a vermifuge is employed in several million cases of hookworm disease, nothing can be taken for granted. Hence great attention is paid to even slight symptoms of intoxication caused by certain vermifuges. The relief of carbon tetrachloride poisoning by calcium medication was further investigated during the year. The influence of diet on carbon tetrachloride intoxication in dogs was carefully considered. A number of diets were tried, but none of them protected the liver tissue from destruction by overdoses of carbon tetrachloride. However, a diet rich in calcium and carbohydrate and poor in meat was found to give a comparatively high resistance, with least symptoms of intoxication and lowest death rates.

A number of recent articles have discussed hexylresorcinol in considerable detail. Its potency as a remedy for ascariasis has again been stressed. Data on field treatments with this drug have been presented, describing dosage and methods of administration.

Attention has been given to the absorption and excretion of hexylresorcinol and heptylresorcinol

under different conditions; and a method for the quantitative determination of hexylresorcinol in tissues, blood, and excreta has been discussed. The anthelmintic properties of the two substances have been compared in favor of the former. One paper discusses the treatment of ascariasis and trichuriasis with hexylresorcinol pills. Since this drug when administered in gelatin capsules occasionally suffers from a reaction between the gelatin and the drug, especially in moist regions, where parasitic worms are most prevalent, it was sought to overcome this difficulty by administering the drug in sugar-coated pills, using crystalline hexylresorcinol.

Lamson, P. D., and C. B. Ward. The Chemotherapy of Helminth Infestations. *Journal of Parasitology*, 18: 173–199 (March) 1932.

Minot, A. S. The Mechanism of the Hypoglycemia Produced by Guanidine and Carbon Tetrachloride Poisoning and Its Relief by Calcium Medication. *The Journal of Pharmacology and Experimental Therapeutics*, 43: 295–313 (Oct.) 1931.

Cutler, J. T. The Influence of Diet on Carbon Tetrachloride Intoxication in Dogs. *The Journal of Pharmacology and Experimental Therapeutics*, 45: 209–226 (June) 1932.

Brown, H. W. Effect of Hexylresorcinol upon *Ascaris* and Hookworm Eggs. *Proceedings of the Society for Experimental Biology and Medicine*, 28: 1036–1039, 1931.

Lamson, P. D., H. W. Brown, B. H. Robbins, and C. B. Ward. Field Treatments of Ascariasis, Ancylostomiasis, and Trichuriasis with Hexylresorcinol. *The American Journal of Hygiene*, 13: 803–822 (May) 1931.

Robbins, B. H. Quantitative Studies on the Absorption and Excretion of Hexylresorcinol and Heptylresorcinol under Different Conditions. *The Journal of Pharmacology and Experimental Therapeutics*, 43: 325–333 (Oct.) 1931.

Robbins, B. H., and L. G. Wesson. A Method for the Quantitative Determination of Hexylresorcinol in Tissues, Blood, and Excreta. *The Journal of Pharmacology and Experimental Therapeutics*, 43: 335–337 (Oct.) 1931.

Lamson, P. D., E. L. Caldwell, H. W. Brown, and C. B. Ward. A Comparison of the Anthelmintic Properties of Hexylresorcinol and Heptylresorcinol. *The American Journal of Hygiene*, 15: 306–314 (Jan.) 1932.

Lamson, P. D., and C. B. Ward. Anthelmintic Properties of Certain Alkyl Cresols. *Proceedings of the Society for Experimental Biology and Medicine*, 29: 340–341, 1931.

Brown, H. W. The Treatment of Ascariasis and Trichuriasis with Hexylresorcinol Pills. *The American Journal of Hygiene*, 16: 602–608 (Sept.) 1932.

The Dog Hookworm

A study was made of the effect of a deficient diet on the susceptibility of dogs and cats to hookworms other than those with which they were normally infected. An undernourished condition produced by a deficiency in vitamins and important minerals caused the breakdown of resistance so that the animal became more susceptible to infection with the hookworm. There is some evidence that if this condition is carried far enough the dog can be infected with the cat hookworm and vice versa. These experiments suggest the possibility of a close relationship between undernourishment and incidental parasitism even in human beings.

Foster, A. O., and W. W. Cort. The Effect of a Deficient Diet on the Susceptibility of Dogs and Cats to Non-Specific Strains of Hookworms. *The American Journal of Hygiene*, 16: 582–601 (Sept.) 1932.

Hookworm Diagnosis

An interesting attempt was made to find out whether hookworm disease could be diagnosed by skin reactions similar to those used to de-

termine sensitivity to proteins, but the intradermal reaction to hookworm proteins was found too variable to be used as a diagnostic method.

In this connection a study was also made of repeated skin infections on the same area of the skin in white mice and dogs, to determine whether local acquired immunity could be brought about. The reaction to skin penetration, however, was found to be due not to any immune reaction to the larvae themselves but rather to tissue injury by the larvae.

An article was published dealing with the value of the egg count in determining the intensity of hookworm infestation. It was concluded that effective field studies can be made by using the egg count alone. This is on the assumption that there is a direct relation between the number of eggs passed and the number of hookworms harbored. It was confirmed that the old world hookworm, *Ancylostoma duodenale*, has a greater egg production than the new world hookworm, *Necator americanus*, although the exact relation between the egg production of the two worms needs further study.

Stumberg, J. E., and R. R. Molina. Hypersensitiveness to Hookworm Proteins in Porto Rico. *The Porto Rico Journal of Public Health and Tropical Medicine*, 7: 37–49 (Sept.) 1931.

Stumberg, J. E. Cutaneous Retention of Infective Larvae of the Dog Hookworm, *Ancylostoma caninum*, and the Inflammatory Reaction to Skin Penetration. *The American Journal of Hygiene*, 15: 186–205 (Jan.) 1932.

Earle, W. C., and C. R. Doering. An Evaluation of Egg-Count Data in Hookworm Infestation. *The American Journal of Hygiene*, 15: 513–556 (March) 1932.

Hookworm Control

In many regions where The Rockefeller Foundation formerly cooperated in hookworm control, this work has in recent years been embodied as part of well-rounded health services, involving control also of other communicable diseases and attention to public health work in general, including such items as sanitation, child welfare, school hygiene, and many other activities. However, in 1931 the Foundation still assisted the health administrations of seventeen foreign countries in antihookworm work, comprising field studies and control programs. In the United States funds were made available for the continuation of field investigations and a certain amount of laboratory work at Andalusia, Alabama, the Johns Hopkins School of Hygiene and Public Health, in Baltimore, and Vanderbilt University, in Nashville, Tennessee.

One of the most important prophylactic measures in all hookworm work consists in the building and use of latrines. On this subject much information has been given in the early annual reports of The Rockefeller Foundation. It has been stressed that different kinds of sanitary conveniences are required in different parts

of the world, in conformity with local habits, customs, and usages. In recent years considerable attention has been paid to a new device known as the bored-hole latrine, which is easily constructed and which offers certain other definite advantages.

During 1931, field studies of the effectiveness of the bored-hole latrine were conducted in the Philippine Islands; in the Province of Burma, the Madras Presidency, and the State of Mysore, in India; in Ceylon; and in Egypt. In the United States such studies were a chief feature of the work at the research laboratory at Andalusia, Alabama. An article was published giving full information on bored-hole latrine equipment and construction.

Yeager, C. H. Bored-Hole Latrine Equipment and Construction. *The Philippine Journal of Science*, 46: 681–749 (Dec.) 1931.

In most countries where the Foundation is still cooperating in hookworm work, this cooperation takes the form of providing the services of a representative who is available as consultant. Beyond the salary of this representative there is no financial aid. This type of assistance is given in Mexico, the various countries of Central America, Jamaica, Porto Rico, Venezuela, India, and several South Pacific Islands.

In Colombia, South America, assistance by the Foundation was continued toward the budget of

the Hookworm Section of the National Department of Health. There was also organized in the Palestina Municipality of Colombia a model demonstration of the control of hookworm disease, which provided facilities for training the personnel of the Hookworm Section. In Spain funds were contributed toward a compaign for soil pollution control.

To determine the suitability of bored-hole latrines in rural Ceylon, funds were furnished for the complete sanitation of a village with this type of sanitary convenience. In Egypt, the Foundation continued to give financial support to a program involving studies of hookworm disease and bilharziasis. The services of two Foundation staff members were provided for this work.

An epidemiological study of amebiasis was made in a rural community in Tennessee where about 38 per cent of the population harbor the cysts of *Endamoeba histolytica* and about 25 per cent have, during the past ten years, had clinical dysentery. No correlation was found between dysentery and the presence of *Endamoeba histolytica*. Further study is necessary to differentiate bacillary from amebic dysentery in this region.

Milam, D. F., and H. E. Meleney. Investigations of *Endamoeba Histolytica* and Other Intestinal Protozoa in Tennessee. II. An Epidemiological Study of Amebiasis in a Rural Community. *The American Journal of Hygiene*, 14: 325–336 (Sept.) 1931.

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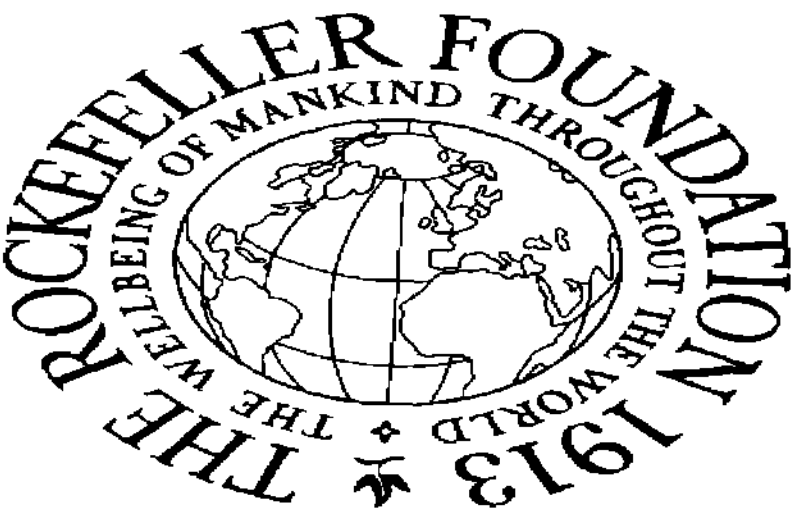
Assistant of the hookworm survey staff, Travancore, India, transporting material used in educational work.

Motion picture equipment used in rural sanitation campaigns in the Netherlands East Indies.



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Room in which patients are examined and treated for hookworm disease, local health station, Minatitlan, Mexico.

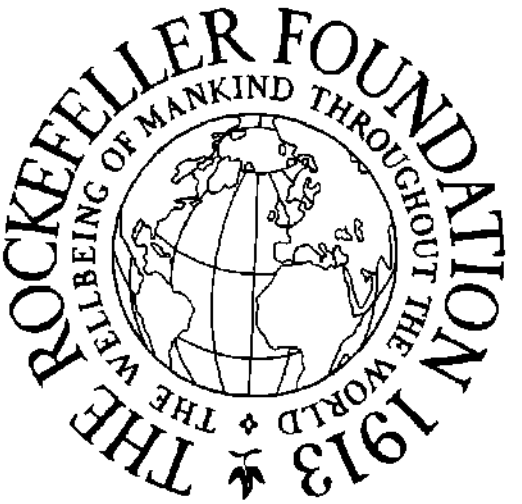
Miscellaneous Public Health Research Work

Yaws

An article on yaws in the South Pacific was published during the year. Yaws is a tropical disease, highly contagious and characterized by a peculiar eruption and by constitutional disturbances. Because of the likeness of the typical excrescences to a raspberry, the disease is also known as frambesia. In the South Pacific yaws may be seen in all its manifestations. Some of its symptoms closely resemble those of syphilis, which on the other hand is so rare among South Pacific races as to be almost non-existent. There seems to be evidence that yaws immunizes against syphilis. Yaws was formerly an important cause of infant mortality.

Mass treatment of persons with symptoms of yaws has been carried out, but this does not suffice to eradicate the disease. The reservoir of infection occurs among youths up to the age of seventeen, who give a history of yaws but show no signs of the disease. Treatment with salvarsan and similar drugs is causing the gradual disappearance of the disease in certain Polynesian groups. Recent progress in treatment has also been made in Melanesia.

The control of soil pollution and the treatment of yaws and hookworm are outstanding problems



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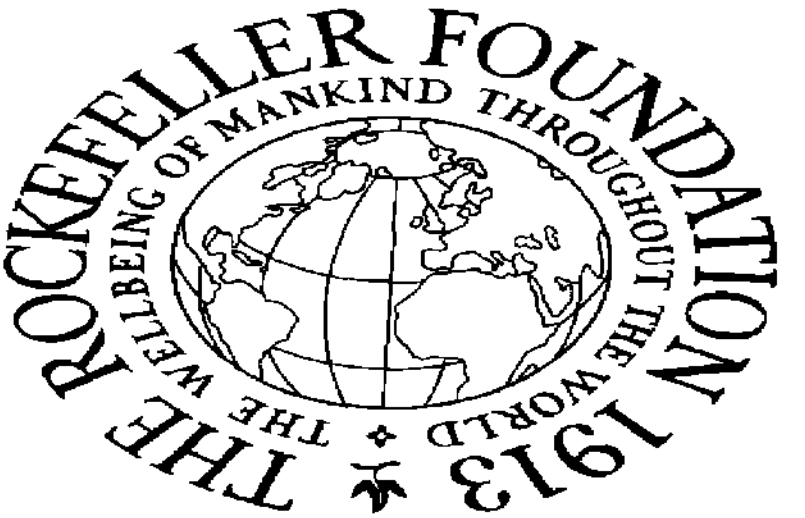
Building in which the hookworm and public health laboratory services of the National Department of Health of Guatemala are housed.



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Field clinic at Bath, Jamaica, where treatment for yaws is given.

in the South Pacific Islands. On account of the small units of population living on scattered islands, the cost of such work is greater than in other countries. The task is one of helping Polynesian and Melanesian races to adjust their culture to modern civilization and to aid them in dealing with their own health problems. The Rockefeller Foundation has made a contribution for a two-year yaws and hookworm campaign in Western Samoa.

Jamaica is another island where yaws has been known for a long time. It was a not uncommon illness there as early as 1650. At present the yaws areas have been fairly definitely delimited. There are three endemic regions in the mountainous interior, and the disease is fairly widespread. In 1929 the number of cases treated totaled 29,047. Control measures are systematically carried out by the government; the legislative council each year votes a sum of money for this purpose.

A plan has been drawn up for a survey of yaws in Jamaica. Certain areas will be selected for study, a census will be taken, and the population of the area will be handled according to a definite program. Resurveys will be made in areas where experimental treatments have been administered, in order to keep track of the amount of recurrence and of the development of symp-

toms of the more advanced stages of the disease. A contribution for this survey has been made by The Rockefeller Foundation, and the work will be conducted cooperatively with the government. Here, as in Samoa, it is hoped that the studies undertaken will point the way to the elimination of yaws or its control through routine measures. The investigations will involve such features as the search for better methods of treatment, a survey of the results of previous treatment and application of the knowledge revealed, a test of oral as compared with hypodermic use of neosalvarsan, spirocid, and other reliable recommended drugs. In brief, it is hoped that the undertaking may result in new knowledge that will help in dealing more effectively with the yaws problem.

Lambert, S. M. Yaws Incidence in the South Pacific. *Journal of Tropical Medicine and Hygiene*, 34: 117–122 (May) 1931.

Tuberculosis

A survey was made of the amount of tuberculous infection in some of the communities of the southern United States. The incidence of the infection was determined by means of the intracutaneous tuberculin test. School children and families living in certain sections of Tennessee and Mississippi, including representatives of both the colored and the white race, were tested,

and the results of this survey were compared with the findings of a similar survey of school children in Philadelphia, made under the auspices of the Henry Phipps Institute for the Study, Treatment, and Prevention of Tuberculosis. In the southern counties studied it appeared that the negro, even in childhood, was infected with the tubercle bacillus more often than the white. In Philadelphia the percentage of colored children reacting to tuberculin was 0.7 per cent lower than the percentage of white children, but in the southern counties investigated it was 10 per cent higher. Infection was found to increase with increasing age. It was lower in rural districts. It is not improbable that the incidence of infection has increased in recent years. Isolated communities, through improved roads and methods of transportation, have been laid open to the spread of the disease.

Aronson, J. D. Incidence of Tuberculous Infection in Some Communities of the South. *The American Journal of Hygiene*, 14: 374–393 (Sept.) 1931.

Undulant Fever

The laboratory investigation of undulant fever in certain sections of France, mentioned in The Rockefeller Foundation annual report of last year, is progressing. Undulant fever, a disease attacking sheep, goats, cows, as well as human beings, began to attract attention in France in

1909. During the immediately succeeding years it spread to several departments along the Mediterranean coast, in some localities reaching epidemic proportions. Then, until 1920, there was a remission; but since that time there has been a gradual increase, until twenty-eight departments have now reported cases. Infected animals cannot be readily identified by known laboratory methods or by symptoms. The occurrence of abortions among animals is commonly the first indication of the presence of the disease. In human beings the disease bears some resemblance to typhoid fever and influenza.

To control the disease successfully in either man or animals, additional information was needed with regard to mode of transmission and methods of reliable diagnosis in animals. With this purpose in mind funds were provided for an investigation involving field and laboratory studies under the general direction of Professor Marcel Lisbonne, head of the Bouisson-Bertrand Institute at Montpellier.

During 1931 individual cases of undulant fever were studied. In a survey of six communes, selected because of known prevalence of the disease, 12 per cent of the entire population, or 14 per cent of persons above the age of fifteen years, were found to have had the disease within the last five to seven years. Laboratory examina-

tions supported epidemiological findings indicating goats and sheep as the main reservoir of infection. The most important means of human contamination seems to be contact with sheep and goats and their excretions. All cultures from human patients as well as from animals have been classified as *Brucella melitensis*. This disease constitutes a serious health hazard to human beings and produces great economic loss through abortion in animals.

Anemia in Porto Rico

Various kinds of anemia play an important rôle in the public health problem of Porto Rico. The types of anemia associated with hookworm disease, malaria, and sprue are relatively common. During 1931 there was undertaken an investigation of selected cases of anemia as possibly related to direct or indirect dietary deficiency. The investigation was carried on, as a cooperative enterprise, by the Thorndike Memorial Laboratory of Boston City Hospital, the Departments of Medicine and Tropical Medicine of Harvard University, the Presbyterian Hospital at San Juan, Porto Rico, and The Rockefeller Foundation, which provided funds for a budget covering a period of ten months.

In over 150 cases of anemia associated with hookworm infestation, the rôle played by die-

tary deficiency and gastro-intestinal changes was clearly brought out. In a hundred cases of anemia associated with sprue, there was found a close relationship between this disease and certain forms of pernicious anemia. A careful study was made of the beneficial effect of various substances, especially liver extract, on the blood-forming organs of patients suffering from this form of anemia.

Rhoads, C. P., and W. B. Castle. Observations on the Etiology and Treatment of the Anemia of Hookworm Disease in Porto Rico. In press.

Castle, W. B., and C. P. Rhoads. Observations on the Etiology and Treatment of Sprue in Porto Rico. In press.

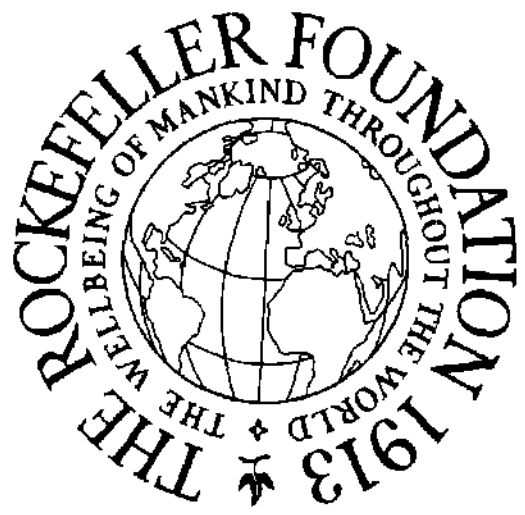
Aid to State and Local Health Services

Public Health Nursing and Nursing Education

In Brazil and in Europe The Rockefeller Foundation has for some time contributed toward the advancement of nursing education. Emphasis has been laid on the importance of the public health nurse, whose house-to-house visits are of such practical value in public health work. As a point of contact between the population and the health officials of the local administration the intelligent and well-trained public health nurse is indispensable.

The year 1931 witnessed the conclusion of a ten-year period of cooperation between the Foundation and the Government of Brazil in

the development of modern nursing, with special attention to public health nursing and the education of nurses. At the request of Dr. Carlos Chagas, director of the Brazilian National Department of Health, the Foundation in 1921 sent a representative to Brazil to make a survey of needs in nursing service. It was found that the necessity for public health nursing and for high standards of nursing in general was thoroughly recognized. Immediate steps were taken to organize a training school for nurses; and on February 19, 1923, the first class, numbering thirteen students, was admitted to the D. Anna Nery School of Nursing, established in Rio de Janeiro. After preliminary experiments with briefer courses, the length of the curriculum was fixed at three years. At first the school had only two small rented houses. But through the cooperation of the Brazilian Government and The Rockefeller Foundation there were presently provided a nurses' residence and a classroom pavilion. The former was opened in July, 1926, and the latter in September, 1927. Meanwhile the first class, by then numbering fourteen students, had graduated from the School of Nursing in 1925, and five of the graduates had gone abroad for further study on Rockefeller Foundation fellowships. The school increased in size, scope of curriculum, and influence.



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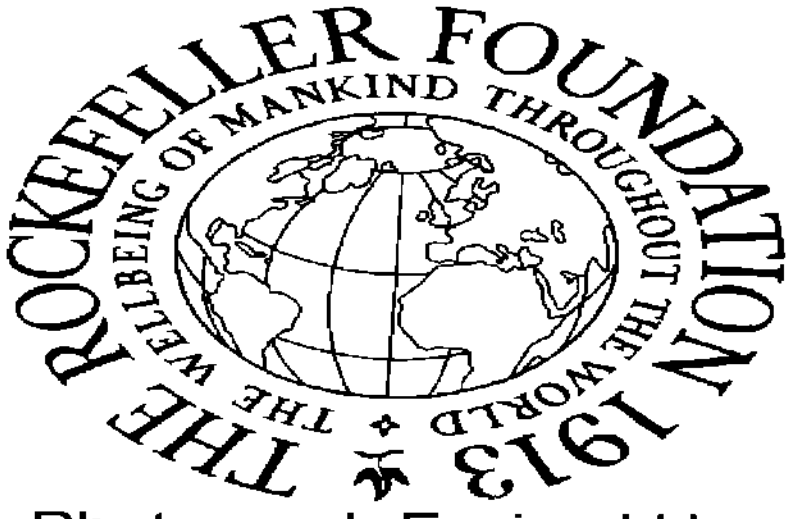
Teaching pavilion of the D. Anna Nery School of Nursing, Rio de Janeiro, Brazil.



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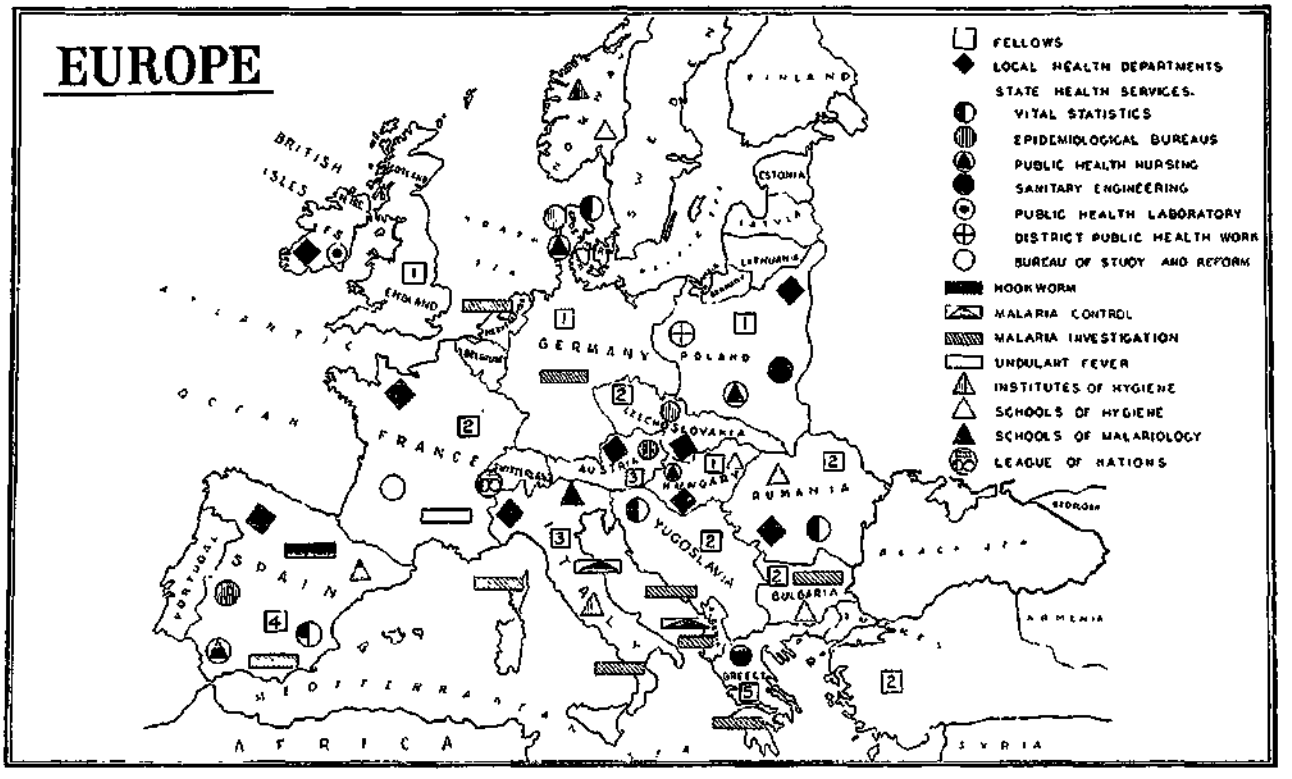
Two lecture rooms of the D. Anna Nery School of Nursing, which can be made to serve as a large auditorium by opening the folding doors between them.

The Brazilian Graduate Nurses Association, registered under federal laws and accepted as a member of the International Council of Nurses, was founded in 1929. In 1931 the President of Brazil signed a decree making the D. Anna Nery School of Nursing the official standard nursing school of Brazil. Legislation was enacted on conditions under which diplomas of other schools could be accorded official recognition, on government supervision of schools desiring such recognition, and on state registration of nurses' diplomas, with a restriction of the use of the title of graduate nurse. During this year the nursing service of the National Department of Health became an entirely Brazilian enterprise supported by Brazilian funds. The first state examination for registration of nurses' diplomas was held on August 21, 1931.

Brazil now has a Bureau of Nursing which is part of the National Department of Health and which has a well-equipped central office and five branch offices. In the D. Anna Nery School of Nursing this bureau has a first-class training center with facilities for 100 students and a course which, since 1928, has been of three years' duration, and which comprises instruction in medicine, surgery, obstetrics, communicable and children's diseases, as well as in all branches of public health nursing. Already the school has



Types of health work in which The Rockefeller Foundation is assisting in Europe.

graduated 114 Brazilian nurses, of whom ninety-eight, or 86 per cent, have remained in active nursing work. Fifteen nurses have studied in the United States on Rockefeller Foundation fellowships and have returned to Brazil. On August 31, 1931, there were 101 students registered in the school. The foundation has been laid for the future development of nursing education in Brazil to the point where adequate service to meet the demands of federal and state departments of health and to supply skilled nursing care throughout the country will be merely a question of normal and healthy growth.

The entry of The Rockefeller Foundation into the European nursing field followed also as a direct result of its interest in public health work. During the last year of the War, 1917 to 1918, the Foundation was engaged in an emergency program of aid to antituberculosis work in France, which included the training of tuberculosis nursing personnel. Training centers were organized in several large provincial towns, and these, together with the schools in Paris, established a specialized six-months' course for candidates who had had one year of hospital experience. The courses were prolonged to one year, and later, when candidates with previous hospital experience gave out, to two years.

The need for good entrance educational

standards became evident as nursing activities gained in impetus. In 1922 a government decree established a state diploma in nursing and defined minimum standards for schools desirous of obtaining government recognition. Two years later, with the aid of the Foundation, a Central Bureau of Nurses was created within the Department of Hygiene, attached to the Ministry of Labor and Hygiene, to take care of matters pertaining to registration, inspection, and state examinations. By the end of 1927 the Foundation had completed a decade of nursing activities in France, many of them connected with the tuberculosis program which, as the Foundation withdrew, was taken over by the government.

In 1927 Foundation support was given for the establishment in Lyon of a generalized health center to serve as a practice field for pupil nurses under the direction of the medical school at Lyon.

The aftermath of the War, in terms of disease and disability, was also responsible for the entrance of The Rockefeller Foundation into the field of nursing elsewhere in Europe. From Poland to Greece, from France across to Rumania and Turkey, there arose a demand for the public health nurse, which accompanied the rise of child welfare activities and the creation of

agencies to fight tuberculosis, malaria, trachoma, and other diseases. In 1922 and 1923 a Foundation representative made a study of conditions in nursing education and practice in nine countries of Europe. This survey clearly brought out the interdependence of nursing developments and the other projects in medical education and public health in which the Foundation was already engaged. A program of cooperation in the European nursing field was adopted, and in 1924 active participation in training school projects in Poland and Yugoslavia was undertaken, to be followed by similar participation in Hungary, Belgium, England, and Rumania, and pledges of cooperation to Bulgaria and Czechoslovakia. Funds were set aside for nursing education in nine European countries, in most of which The Rockefeller Foundation was already engaged in other public health activities or in work dealing with medical education.

The nursing projects in these nine countries concern thirteen schools, of which six are connected with universities and seven are or will be maintained by government departments of hygiene. However, all these schools except two in England, which are integral parts of the hospitals to which they belong, are or will be separate entities operating on individual budgets and supported independently of the hospital or

university clinics which serve as training fields for their students. They are conceived as independent schools.

The Foundation makes no attempt to prescribe a program for any of the schools with which it is cooperating. The school programs must be adapted to the varying needs of different countries. The countries themselves are concerned in maintaining certain minimum standards. While building projects are recognized as necessary, these are of secondary importance in comparison with the preservation of educational standards. For this reason contributions to maintenance budgets have been made to enable schools to establish adequate salaries for teaching and supervisory personnel. The improvement of teaching facilities is interpreted as including installation of model teaching units, each comprising a demonstration room, a science laboratory, a dietetic kitchen, and the necessary classrooms.

In connection with its European nursing program the Foundation has trained abroad 143 nursing fellows, who are active now chiefly in staffing various schools and in operating field services in which students are being trained. In addition, forty-two leaders in nursing from nine countries have visited nursing centers in Europe or America as guests of the Foundation.

France, Poland, and Hungary have established national bureaus of nursing in connection with governmental departments of health. Throughout Europe the dignity and importance of nursing and nursing schools has greatly increased.

Other Health Services

Public health nursing is only a small part of the work of a modern health service. Every government has a central office for health administration, and under this are ranged the local health services. Most of the technical work is done in the state or central health office, and most of the actual contact work with the population is carried out through the local offices.

During 1931 The Rockefeller Foundation assisted the governments of thirty-three foreign countries and the health departments of twenty-two states in the United States to develop and strengthen certain essential services in the central health administration. These included sanitary engineering departments, public health laboratory services, epidemiological divisions, bureaus of vital statistics, and general public health administration.

Sanitary Engineering.—Aid for the development of sanitary engineering was given in a number of countries through the provision of the

services of a Foundation staff member in an advisory capacity. A staff member who is adviser for Central American countries spent a part of 1931 in Jamaica, working on an improved water-supply and sewage-disposal project. In Greece a staff member acted as technical adviser in sanitary matters connected with rural water supply and sewage disposal in two areas in which malaria field stations were in operation, devoting his chief attention to the engineering aspects of malaria control. In China a representative assisted the National Health Administration in developing the Department of Sanitary Engineering at the Central Field Station which is being established at Nanking. In the State of Mysore, in India, where a Bureau of Sanitary Engineering is being created, the services of a sanitary engineer were provided and a contribution was made toward the budget of the bureau. Bored-hole latrine experiments were a feature of the work in this region. The Division of Sanitary Engineering in Egypt, which is being established by the Department of Public Health, had the assistance of a Foundation sanitary engineer in a demonstration of the control of soil pollution. In three states of the United States, South Carolina, North Dakota, and South Dakota, assistance was given to the division or bureau of sanitary engineering, through supplementing

the salaries and providing travel expenses of certain personnel.

Public Health Laboratories.—In Dublin, Irish Free State, a National Public Health Laboratory is being established with Foundation aid. A contribution for this purpose was made in 1931. An emergency grant was made toward the cost of replacing laboratory equipment at the Central Laboratory, at Managua, Nicaragua, destroyed in the earthquake of March, 1931. Advisory service by Foundation representatives to promote and strengthen public health laboratory work in other countries of Central America was continued.

In Colombia aid was continued to the Public Health Laboratory Service at Bogota. In accordance with an agreement to assist the Government of Bulgaria in establishing an Institute of Public Health at Sofia, of which the main features are a public health laboratory, a serum institute, and a service school, payments were continued during 1931, upon a sum appropriated toward the cost of construction and equipment. In Norway aid was continued for the salaries and travel expenses of additional personnel in various divisions of the State Institute of Public Health at Oslo, and for books, periodicals, and a contingent fund. In the Philippine Islands, a representative of the Foundation continued

to serve as consultant to the Director of the Bureau of Science. In China the advisory service of a Foundation representative was continued in the interest of the National Epidemic Prevention Bureau in the operation of the Temple of Heaven Laboratory, Peiping, and in the interest of the Laboratory of the Chinese Health Department at Shanghai. In the United States assistance was given to the bureau or division of laboratories in the following states: Florida, Mississippi, South Carolina, and Tennessee.

Epidemiology.—In the Province of Quebec, Canada, funds were provided toward the budget of the Division of Epidemiology, for two and a quarter years, beginning October 1, 1931. In the Province of Styria, Austria, aid was given toward establishing a Division of Epidemiology and Rural Health Work. This assistance covers a five-year period ending with 1935. In the United States funds were granted toward the support of personnel of the divisions of epidemiology of the state health departments of Georgia, Kentucky, Maryland, Mississippi, Montana, New York, North Dakota, South Dakota, and Tennessee. Similar aid was continued to the Division of Epidemiology of the Province of British Columbia, Canada, and to the Epidemiological Bureau of Denmark.

Vital Statistics.—The services of a field repre-

sentative were provided for several months during 1931 in connection with the work of the Bureau of Vital Statistics in Rumania. The Foundation is assisting this bureau in accordance with an agreement covering a period of three and a half years beginning October 1, 1930. Other European countries receiving assistance in the development of vital statistics services are Denmark, Spain, and Yugoslavia. In the state of Travancore, India, a study of vital statistics was carried out by a Foundation representative and a former Foundation fellow. In the United States, the health departments of Oregon and Tennessee received aid for the work of their divisions of vital statistics.

General Public Health Administration.—General aid, chiefly of an advisory nature, was extended to Guatemala, Porto Rico, Ceylon, China, Siam, and certain states of India, in connection with the work of the central public health administration. The Bureau of Health Education in Jamaica, West Indies, and the Division of Public Health Education in the Netherlands East Indies were assisted. A two-year agreement was entered upon with the Government of Mysore, India, for aid in developing a bureau of health education. Work was begun December 1, 1931. The Division of Local Health Service in Mexico received funds

toward the establishment of a central administration office in Mexico City. This aid included the services of a representative of the Foundation. To the Subdivision of Statistics and Epidemiology in the Division of Epidemiology and Sanitation of the State Hygienic Institute at Budapest, Hungary, funds were contributed following a three-year agreement entered upon in 1931. Aid was also given to the central health administrations of the Province of Quebec, Canada, the countries of Austria, Bulgaria, Poland, and Yugoslavia, and fifteen states of the United States.

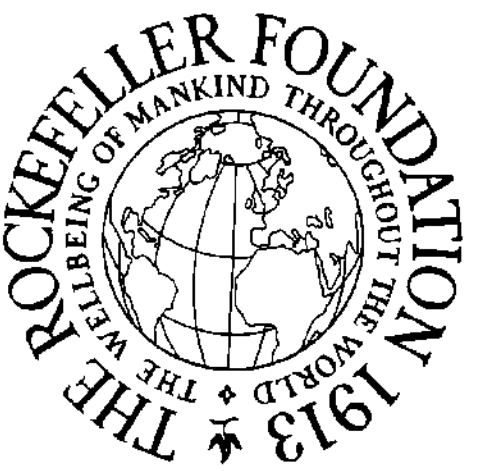
School hygiene was aided in Jamaica through contributions toward the support of ambulatory dental clinics operating in the St. James and Hanover parishes. Support of child hygiene was continued in three states of the United States, namely, Iowa, New York, and North Dakota.

Cooperation has been pledged to the Bureau of Hygiene and Tropical Diseases of the British Colonial Office over a five-year period, beginning April 1, 1931. The aid given by the Foundation to this bureau represents only a small percentage of the funds supplied for this purpose by the British Government. Twenty-three years ago, when outbreaks of sleeping sickness in parts of Africa threatened the extermination of the

population of whole areas, it was realized that the isolation in which medical officers sometimes did their work called for the aid of a central organization to bring to the knowledge of these officers the progress of relevant research in other parts of the world. The British Colonial Office therefore established in London, in 1908, a Sleeping Sickness Bureau. This was expanded in 1912 into the Tropical Diseases Bureau, and in 1926 its scope was developed still further by including within its purview public health and preventive medicine.

The essential function of this bureau is the collection, collation, summarizing, and dissemination of information from every source concerning tropical diseases. The bureau issues two serial publications, *The Tropical Diseases Bulletin* and *The Bulletin of Hygiene*. In addition, there is a wide exchange of information by correspondence. The small contribution by The Rockefeller Foundation will aid the bureau in maintaining its important liaison services with undiminished effectiveness.

Local Health Services.—The projects mentioned above concern aid to central health agencies. Because of limited space, discussion of Foundation aid to local health services will deal only with the projects initiated in 1931. In four provinces of Canada, funds were provided for



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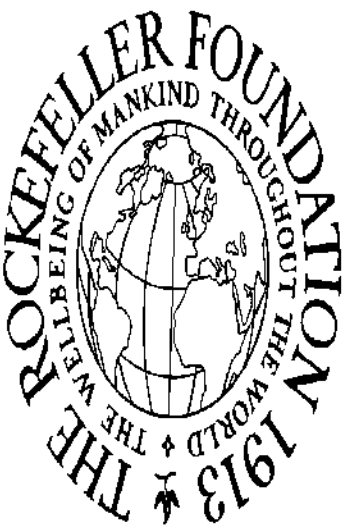

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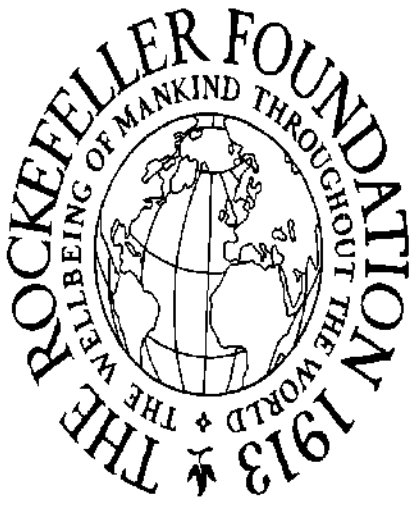
Nurse from the Health Demonstration Station, Peiping, China, showing how the courtyard may be utilized in the treatment of the tuberculous patient.



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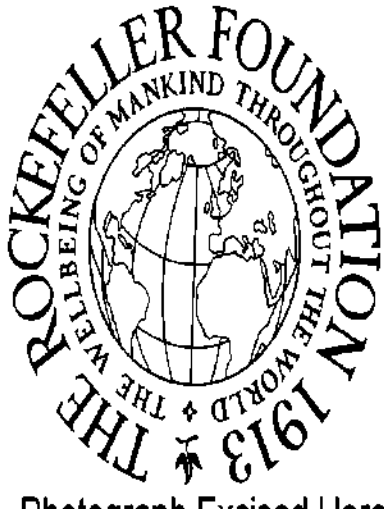

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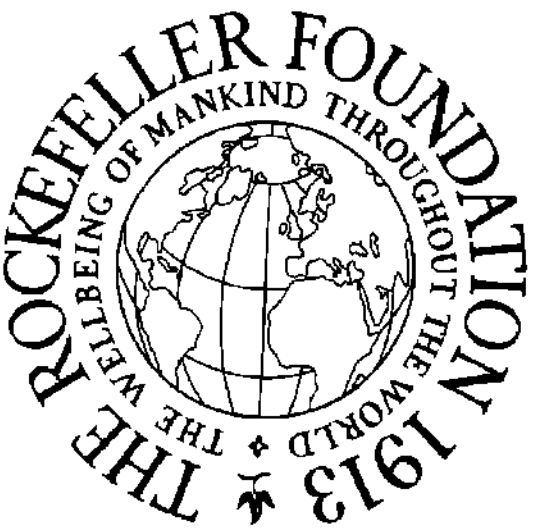
A meeting of the Children's Club of the Health Demonstration Station, Peiping, China.

the development of local health work in specific districts. A grant was made to the Government of Mexico for assistance over a period of one year, ending June 30, 1932, in establishing a Division of Local Health Service. Funds were furnished to assist the local health departments of three municipalities in the states of Vera Cruz, Oaxaca, and Morelos. In Porto Rico a new district health unit received support. In Guatemala funds were provided to expand the scope of the Malaria Control Demonstration Station at Santa Rosa to include certain essential features of a local health unit, and a Foundation representative assisted in organizing in the Department of Retalhuleu the first departmental health unit following the lines of county health units in the United States. In Panama a demonstration of local health work was organized in a district centering in Chitre. The work is supervised by a Foundation field staff member.

In Czechoslovakia funds were provided toward meeting the cost of equipping a new building for the health center of the district of Vrsovice, which will serve also as a practical training station for student health officers and nurses. In Hungary a contribution was made toward the budget of the local health department in the fourth district of the city of Pecs, where work was begun in 1931.



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Members of the Mothers' Club receiving instruction at the local health station in Vrsovice, Czechoslovakia.

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Public health nurse giving home instruction in the care of the baby, Philippine Islands.

In Italy funds were provided to establish a demonstration health station which will be used by the Institute of Public Health at Rome as a training area for public health personnel and as a field for intensive epidemiological studies. During 1931 there was opened in Terracina, at the southern extremity of the Pontine Marshes, an experimental health station which will receive Foundation support for an additional four-year period, ending December 31, 1935.

A modern local health organization is being established in Rumania in the Province of Cluj, District of Gilau, with the Foundation cooperating during a five-year period beginning in 1931. The organization will serve for field demonstration work in connection with the Institute of Hygiene at Cluj. With the aid of the Foundation a local health organization was started in 1931 at Neyyattinkarai Taluk, in the State of Travancore, India, and an experimental health unit was established in the Rizal Province of the Philippine Islands.

Other countries in which Foundation support was given to local health departments are Jamaica, Austria, France, Irish Free State, Poland, Spain, Ceylon, China, and the South Pacific Islands.

There was published during 1931 an article on the training of county health department per-

sonnel, based on observations of work done by the training station at Indianola, Mississippi. This station, maintained by the State Board of Health of Mississippi in cooperation with the Sunflower County Health Department and The Rockefeller Foundation, was established in July, 1927, and up to September 1, 1930, had given brief periods of training to 119 health officers, 171 public health nurses, and 158 sanitary inspectors, thus greatly strengthening public health work in the South.

Janney, J. H. The Training of County Health Department Personnel. *The Southern Medical Journal*, 24:802-806 (Sept.) 1931.

An article on western state boards of health pointed out that the twenty-two states west of the Mississippi represent only 30.4 per cent of the total population of the United States. The health problem among small populations scattered over a vast area is very different from that of certain regions in the East. On December 31, 1931, there were 596 rural counties in the United States maintaining full-time health departments. In addition to receiving state aid, a number of county health units receive financial support from the United States Public Health Service and from The Rockefeller Foundation, as well as occasionally from certain other public health agencies. In Alabama 54 out of 67 counties

maintain full-time health organizations. More and more states are providing their rural populations with competent health service.

Covington, P. W. Western State Boards of Health. *American Journal of Public Health*, 21:1112–1116 (Oct.) 1931.

Public Health Education

The Foundation assists in the advancement of public health education by providing funds for the teaching of public health, chiefly in schools and institutes of hygiene and public health, and for the maintenance of training stations for public health personnel; by travel grants to government health officials; and by the support of fellowships in public health.

Aid to Schools

Schools and institutes of hygiene and public health are an indispensable item in public health education. Foundation support for this type of educational activity was given during 1931 in Canada and Europe. In Canada the School of Hygiene at Toronto received a grant toward endowment. Assistance was continued toward the maintenance, according to a five-year agreement terminating in 1932, of the School for Health Officers in the State Hygienic Institute at Budapest, Hungary. Similarly, in accordance

THE ROCKEFELLER FOUNDATION 1913
WELLBEING OF MANKIND THROUGHOUT THE WORLD

Photograph Excised Here

Central building of the State Hygienic Institute, Budapest, Hungary. The institute is receiving Foundation aid toward the maintenance of its School for Health Officers.

THE ROCKEFELLER FOUNDATION 1913
WELLBEING OF MANKIND THROUGHOUT THE WORLD

Photograph Excised Here

State Institute of Public Health, Praeue, Czechoslovakia, built and equipped with the aid of the Foundation.

with a five-year agreement beginning in 1930, aid was continued toward developing the School of Public Health in the State Institute of Public Health at Oslo, Norway. This school was opened in August, 1930. In fulfilment of a four-year agreement, beginning in 1929, funds were continued toward the cost of building and equipping a Service School in the Central Institute of Hygiene at Angora, Turkey.

Three new projects should be mentioned: first, aid toward the establishment of a Service School which will constitute one of the principal functions of the new Institute of Public Health now being constructed with Foundation aid at Sofia, Bulgaria; secondly, a contribution toward the establishment of a Training School for Health Officers in the new Institute of Hygiene and Public Health at Rome, being erected with Foundation assistance; thirdly, the provision of funds for the enlargement of the facilities of the Institute of Hygiene at Cluj, Rumania, so that it may fulfill adequately its function as a school of public health and as a research center.

On the basis of a three-year agreement beginning in 1930, aid was continued toward maintenance of the Department of Sanitation and Tropical Hygiene in the Imperial College of Tropical Agriculture at St. Augustine, Trinidad. The Foundation also continued to lend the

Photograph Excised Here

The two main buildings of the Central Medical School for Native Medical Students, Suva, Fiji, toward the maintenance of which the Foundation is contributing. At the right is the entrance to the War Memorial Hospital, where the students receive their practical training.

Photograph Excised Here

Fromi, class of 1890, the oldest graduate of the Fijian Medical School still in service. He has had a long and honorable career.

services of a representative as professor and director of the Department of Hygiene and Public Health at Peiping Union Medical College in China.

Training Stations

It has been mentioned that certain local health centers serve also as field training stations for public health personnel. This function as a training base is one of the most important uses to which some of these local agencies are put. In them health officials have an opportunity to acquire, under model conditions, the practical training which rounds out book instruction.

Foundation support was given during 1931 to the Field Training Station for County Health Personnel in Beauce County, Province of Quebec, Canada; to the training activities carried on in the offices of the State Department of Health at Lansing, Michigan; to the Sunflower County Training Station at Indianola, Mississippi; to the Training School for Malariologists conducted at the Malaria Experiment Station in Rome, Italy; to the Training Station for French-Speaking Malariologists at the Malaria Field Station and Training Area in Porto Vecchio, Corsica; to the School of Malariology at Navalmoral de la Mata, operated in conjunction with the malaria program in the province of Cáceres, Spain, and to the

station in the Palestina Municipality, Colombia, for the training of personnel for the Department of Uncinariasis. Funds were also voted to assist the Government of Nigeria, West Africa, during a three-year period beginning in 1931, in a program of public health development, which includes the establishment of centers for the training of African midwives, public health nurses, and sanitary inspectors.

Funds were made available to aid former Foundation fellows at the State Hygienic Institute, Budapest, Hungary, to carry on field and laboratory researches in public health and hygiene during a three-year period, beginning in 1931. Four of the men working at this institute received grants during 1931.

Travel Grants

During 1931 grants were made to enable 226 health officials and health workers to visit public health activities in states or countries other than their own. These persons represented thirty-two states of the United States and eighteen foreign countries.

Development of the Foundation's Fellowship Program in Public Health

The public health training mentioned above falls under the heading of emergency work. It

embodies chiefly the provision of short periods of training as a practical aid to men who are already active in public health work. It includes, furthermore, brief training periods for subordinate public health personnel as well as short study trips for important health officials, all of whom are already occupying positions in the public health field.

The Foundation's public health fellowship program, however, has to do with young men who are starting out on a public health career. Nominations are limited to persons with high qualifications, carefully selected for specific work with the understanding that on the completion of their training they will be appointed to important positions in the health service of their own countries. This program was inaugurated early in 1916, by the passing of a resolution to provide for training in medicine and public health of a limited number of men to be selected from time to time from countries in which the Foundation is active. The first fellowship was granted the following year to a Brazilian, for work in pathology. The second and third grants were made in 1918, also to Brazilians, for study at the Johns Hopkins School of Hygiene and Public Health. After the War, public health programs all over the world underwent considerable development, and

the Foundation's fellowship program was likewise rapidly expanded. From 1917 to 1931 inclusive, 1,028 fellowships in public health were granted. These fellowships have covered most of the civilized world. Awards have been made to representatives of forty-eight countries.

The public health fellowships granted fall under seven general headings: public health administration, public health nursing, public health laboratory service, sanitary engineering, vital statistics, industrial hygiene, and special.

In 1931, $300,000 was set aside by the Foundation for fellowships in public health. With this sum it was possible to award 123 fellowships from two to twelve months in length and thirty-one extension fellowships from one week to twelve months in length. The 123 fellowships were given to men and women from a wide geographic area, embracing twenty-six countries. The grants and extensions totaled 1,266.5 months, or the equivalent of more than 105 years. The largest number awarded to any individual country was to the United States, namely, forty-nine fellowships and seven extensions, equal to 419 months. China received ten fellowships; Canada, nine; India, seven; Japan, six; Greece, five; and many other countries less than five.

During the year there were under supervision

204 fellows. One hundred and twenty-five were training for positions in public health administration; twenty-five for public health nursing; ten for public health laboratory work; twenty in sanitary engineering; four in vital statistics; ten in industrial hygiene; ten in special subjects. Of the 204 fellows under supervision, 173 were assigned to eleven universities in this country; thirteen studied abroad; and eighteen were assigned to field studies or to non-academic institutions during the entire period of their fellowships.

A survey made in 1927 indicated that less than 10 per cent of the former fellows in public health were lost to the field of public health. This small percentage of losses is due to the care with which men are selected. The majority of fellowships are awarded to persons with some experience in public health work, who have definitely dedicated themselves to the advancement of public health in their own countries.

Results of the public health fellowship program have merited the resources devoted to it; present and past appointees, who have enjoyed the privilege of wide schooling and observation, are fast assuming key positions in the international structure of public health.

THE INTERNATIONAL HEALTH DIVISION

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Staff During 1931

Director

Frederick F. Russell, M.D.

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Alexander F. Mahaffy, M.D.
Frank Milam, M.D.
Daniel M. Molloy, M.D.
Hugo Muench, M.D.
George C. Payne, M.D.
Elsmere R. Rickard, M.D.
Paul F. Russell, M.D.
Louis Schapiro, M.D.
Fred L. Soper, M.D.
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Richard M. Taylor, M.D.
Andrew J. Warren, M.D.
Benjamin E. Washburn, M.D.
Clifford W. Wells, M.D.
D. Bruce Wilson, M.D.
Clark H. Yeager, M.D.

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Claude H. Barlow, M.D.
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John S. Cunningham, M.D.
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Estus H. Magoon
Jerome J. Mieldazis
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George H. Ramsey, M.D.
George M. Saunders, M.D.
Edward J. Scannell, M.D.
J. Allen Scott
Raymond C. Shannon
Hugh H. Smith, M.D.
Warren K. Stratman-Thomas, M.D.
Mary E. Tennant
Max Theiler, M.D.
Allen M. Walcott, M.D.
Daniel E. Wright

CONSULTANTS

Alpheus M. Goodman
Eugene L. Opie, M.D.

Status of Personnel During 1931

	January 1	*December 31*
TOTAL STAFF	76	81
Regular Members	47	47
Special Members	27	32
Part-time Consultants	2	2
ON DUTY. TOTAL	69	72
Regular Members	42	41
Special Members	25	29
Part-time Consultants	2	2
ON LEAVE. TOTAL	4	7
Regular Members	2	4
Special Members	2	3
ON STUDY LEAVE. TOTAL	2	2
Regular Members	2	2
Special Members	..	..
ON SICK LEAVE. TOTAL	1	..
Regular Members	1	..
Special Members	..	..

Additions to the Staff during the year

Regular Members
None

Special Members

Joseph D. Aronson, M.D.
W. Thurber Fales
Eugen Haagen, M.D.
Meredith Hoskins, M.D.
Thomas P. Hughes
George M. Saunders, M.D.
Edward J. Scannell, M.D.
Max Theiler, M.D.

Losses from the Staff during the year

Regular Members
None

Special Members

Joseph D. Aronson, M.D.
Ethel Parsons
George H. Ramsey, M.D.

On Leave at the end of the year

Regular Members
Ralph K. Collins, M.D.
William P. Jacocks, M.D.
John F. Kendrick, M.D.
J. Austin Kerr, M.D.

Special Members
Estus H. Magoon
Edward J. Scannell, M.D.
Warren K. Stratman-Thomas, M.D.

On Study Leave at the end of the year

Regular Members
Hugo Muench, M.D.
E. R. Rickard, M.D.

Special Members
None

On Sick Leave during the year

Regular Members
H. H. Howard, M.D.

Special Members
None

**Table of Expenditures for Public Health Work for the Years*

Activity, Country, and State	July 1, 1913–Dec. 31, 1924	1925	1926	1927
Grand Total	*$22,774,627.47*	*$3,333,553.17*	*$3,624,123.08*	*$3,842,559.94*
General Budget				
Local Health Departments	757,657.37	197,190.31	233,628.58	353,107.38
State Health Services	208,465.12	130,356.11	106,013.93	121,335.35
Sanitary engineering	7,360.07	4,225.00	5,374.33	5,510.53
Public health laboratories	82,113.75	32,531.96	28,030.34	27,391.79
Epidemiology	7,655.96	10,414.62	11,053.47	18,913.30
Vital statistics	2,106.66	4,938.09	11,447.75	12,842.73
Public health nursing	46,734.50	45,705.45	19,109.36	20,831.69
Public health administration	.....	.....	.....	.....
Bureaus for study and reform of public health activities	60,270.44	32,540.99	30,644.22	34,390.90
Other services	2,223.74	.....	354.46	1,454.41
Health Organization of League of Nations	265,361.49	179,096.14	126,942.14	124,321.20
Public Health Education	770,778.75	301,052.09	357,872.42	362,885.07
Control of Specific Diseases; Investigations	7,302,240.29	807,129.13	828,081.90	672,110.20
Hookworm disease	2,879,579.99	201,401.95	175,977.76	143,638.71
Malaria	599,514.76	144,034.49	177,801.93	201,343.68
Yellow fever	1,445,068.11	450,045.08	474,302.21	326,085.60
Respiratory diseases	.....	.....	.....	1,042.21
Verruga peruana	.....	.....	.....	.....
Tuberculosis	2,378,077.43	11,647.61	.....	.....
Epidemiological studies	.....	.....	.....	.....
Sanitation	.....	.....	.....	.....
Undulant fever	.....	.....	.....	.....
Public health surveys	.....	.....	.....	.....
Field Service	3,353,202.13	610,919.99	666,773.33	678,066.41
Miscellaneous	184,055.17	7,878.20	10,760.61	16,988.76
Buildings, Equipment, and Endowment				
Schools and Institutes of Hygiene and Public Health	9,932,867.15	1,099,931.20	1,263,839.32	1,414,262.06
Schools of Nursing	.....	.....	30,210.85	99,483.51

* Annual reports for 1929 and prior years included statements of expenditures with salaries and as a separate item.

1913–1931 Inclusive, Covering All Activities

1928	1929	1930	1931	Total
$3,074,732.83	*$3,561,891.09*	*$2,637,924.04*	*$3,096,361.75*	*$45,945,773.37*
454,495.95	485,532.77	397,513.67	267,924.31	3,147.050.34
146,023.82	174,171.48	158,806.03	119,512.12	1,164,683.96
8,242.06	11,170.54	11,087.69	11,515.18	64,485.40
25,489.57	21,678.48	13,822.79	11,001.59	242,060.27
22,802.67	36,276.00	37,202.56	41,796.88	186,115.46
19,257.68	42,616.57	24,319.72	22,397.60	139,926.80
13,525.09	17,945.78	13,118.88	5,743.41	182,714.16
.....	.....	10,936.01	13,348.82	24,284.83
26,654.59	18,294.92	11,794.79	.....	214,590.85
30,052.16	26,189.19	36,523.59	13,708.64	110,506.19
123,497.81	123,905.27	.....	.....	943,124.05
325,936.61	440,643.91	381,459.21	306,021.91	3,246,649.97
558,064.41	593,285.61	626,026.55	799,519.93	12,186,458.02
94,245.99	77,678.29	55,396.04	52,452.43	3,680,371.16
188,553.09	189,310.29	154,478.13	169,837.28	1,824,873.65
266,783.21	314,288.37	366,648.42	440,624.47	4,083,845.47
2,680.32	4,442.37	8,765.36	8,989.07	25,919.33
1,295.82	.....	.....	.....	1,295.82
4,100.97	5,786.58	31,103.27	67,837.07	2,498,552.93
.....	.....	6,739.87	43,198.11	49,937.98
405.01	1,466.61	773.24	4,807.23	7,452.09
.....	.....	1,891.86	11,774.27	13,666.13
.....	313.10	230.36	.....	543.46
712,918.89	705,208.08	705,511.22	742,802.82	8,175,402.87
19,279.89	12,031.36	14,503.63	12,482.83	277,980.45
734,515.45	1,027,112.61	354,103.73	848,097.83	16,674,729.35
.....	.....	.....	.....	129,694.36

expenses of field staff prorated to specific budgets. In this statement, the cost of field service is reported

Table of Expenditures for Public Health Work for the Years

Activity, Country, and State	July 1, 1913–Dec. 31, 1924	1925	1926	1927
General Budget				
Local Health Departments	***$757,657.37***	***$197,190.31***	***$233,628.58***	***$353,107.38***
United States	668,547.01	159,314.43	152,793.57	226,921.68
Alabama	65,103.29	6,111.06	8,276.84	5,969.07
Arizona	.....	.....	.....	.....
Arkansas	.....	1,335.10	2,367.78	2,038.45
California	13,645.82	7,500.00	5,249.98	6,291.67
Colorado	.....	1,875.00	2,500.00	2,000.00
Florida	1,759.83	.....	.....	.....
Georgia	10,255.20	1,518.08	3,447.57	3,961.03
Idaho	.....	.....	.....	.....
Illinois	4,491.65	1,650.00	750.00	.....
Indiana	3,891.66	.....	.....	.....
Iowa	2,543.09	1,625.90	3,600.00	3,100.00
Kansas	30,306.08	2,908.36	3,747.28	2,525.00
Kentucky	64,602.84	11,321.01	11,710.60	11,892.46
Louisiana	44,820.21	6,009.57	5,499.61	7,464.69
Maryland	15,380.80	.....	.....	.....
Michigan	.....	.....	.....	.....
Minnesota	5,374.97	625.00	.....	.....
Mississippi	59,858.01	11,081.99	8,256.25	13,389.00
Missouri	25,993.33	5,155.00	7,322.13	5,195.00
Montana	.....	.....	.....	.....
New Mexico	35,630.78	6,516.00	5,691.68	3,179.07
North Carolina	41,461.24	8,981.33	7,500.00	5,000.00
Oklahoma	3,283.96	10,782.94	12,995.48	11,786.18
Oregon	11,415.37	10,307.79	9,396.77	9,077.41
South Carolina	57,372.93	12,848.94	10,191.39	9,802.26
South Dakota	3,645.82	5,000.00	2,702.77	1,312.50
Tennessee	49,564.28	9,126.74	12,555.63	12,565.67
Texas	37,036.94	10,514.57	6,668.13	3,245.23
Utah	1,066.83	2,553.75	3,678.47	4,434.80
Virginia	45,689.97	9,456.96	7,943.43	14,583.15
Washington	2,500.00	2,291.66	.....	.....
West Virginia	28,989.85	9,719.05	9,819.24	15,258.61
Wyoming	2,862.26	2,498.63	922.54	856.80
Mississippi flood area	.....	.....	.....	*71,993.63*
Arkansas	.....	.....	.....	7,443.28
Illinois	.....	.....	.....	.....
Kentucky	.....	.....	.....	6,404.93
Louisiana	.....	.....	.....	6,623.11
Mississippi	.....	.....	.....	6,639.55
Missouri	.....	.....	.....	1,354.86
Tennessee	.....	.....	.....	1,574.86
Training station	.....	.....	.....	41,953.04

1913–1931 Inclusive, Covering All Activities—Continued

1928	1929	1930	1931	Total
$454,495.95	**$485,532.77**	**$397,513.67**	***$267,924.31***	***$3,147,050.34***
304,880.03	**313,774.56**	**247,377.26**	**180,978.50**	**2,254,587.04**
7,337.80	25,862.46	8,151.32	4,112.34	130,924.18
.....	.....	2,045.82	7,291.63	9,337.45
1,771.20	1,800.00	.....	.....	9,312.53
6,583.33	7,562.50	7,972.31	4,345.38	59,150.99
2,000.00	1,000.00	500.00	.....	9,875.00
.....	.....	.....	.....	1,759.83
5,924.57	10,067.57	9,649.05	7,086.96	51,910.03
.....	375.00	2,062.50	1,200.00	3,637.50
.....	.....	.....	.....	6,891.65
.....	.....	.....	.....	3,891.66
3,300.00	2,150.00	2,894.58	4,001.93	23,215.50
2,343.76	3,541.67	5,052.05	2,925.00	53,349.20
11,744.10	10,737.22	9,799.58	5,975.00	137,782.81
7,979.57	6,417.22	2,981.16	1,000.00	82,172.03
.....	.....	.....	1,935.36	17,316.16
6,605.13	10,010.02	9,599.37	13,614.41	39,828.93
.....	.....	.....	.....	5,999.97
11,554.18	20,294.88	17,824.22	9,899.91	152,158.44
5,064.00	4,637.50	5,850.00	4,500.00	63,716.96
1,283.34	600.00	1,200.00	1,130.00	4,213.34
2,795.26	.....	.....	.....	53,812.79
.....	.....	.....	.....	62,942.57
12,245.81	8,546.11	5,120.83	1,383.34	66,144.65
5,795.18	4,350.00	.....	.....	50,342.52
11,108.94	14,700.00	16,608.33	10,425.00	143,057.79
1,698.25	594.51	.....	.....	14,953.85
16,595.12	16,093.75	15,763.92	8,220.46	140,485.57
1,150.00	100.00	3,146.75	4,958.34	66,819.96
3,687.50	750.00	.....	.....	16,171.35
16,326.00	14,805.88	9,389.80	6,204.55	124,399.74
.....	.....	.....	.....	4,791.66
16,374.38	15,274.47	16,242.87	10,486.50	122,164.97
890.73	.....	.....	.....	8,030.96
142,721.88	*133,503.80*	*95,522.80*	*70,282.39*	*514,024.50*
37,186.11	35,601.84	24,271.29	18,317.57	122,820.09
1,750.84	1,273.63	.....	.....	3,024.47
19,414.39	19,965.14	15,544.78	10,953.24	72,282.48
41,198.13	44,755.59	30,629.47	20,257.61	143,463.91
13,969.72	17,385.55	14,387.75	12,808.82	65,191.39
4,198.28	1,960.00	725.62	160.72	8,399.48
2,307.36	2,465.06	750.00	500.00	7,597.28
22,697.05	10,096.99	9,213.89	7,284.43	91,245.40

Table of Expenditures for Public Health Work for the Years

Activity, Country, and State	July 1, 1913–Dec. 31, 1924	1925	1926	1927
General Budget (*Cont.*)				
Local Health Departments (*Cont.*)				
Foreign Countries...	$89,110.36	$37,875.88	$80,835.01	$126,185.70
Canada.....	*54,000.00*	.....	*6,875.36*	*15,199.57*
Mexico.....	.....	.....	.....	.....
Central America..	.....	.....	.....	.....
Guatemala				
Santa Rosa...	.....	.....	.....	.....
West Indies.....	.....	.....	*607.31*	*4,495.10*
Porto Rico.....	.....	.....	607.31	4,495.10
Jamaica.....	.....	.....	.....	.....
South America...	*35,110.36*	*17,186.46*	*36,533.64*	*27,934.56*
Brazil.....	35,110.36	17,186.46	36,533.64	27,934.56
Paraguay	.....	.....	.....	.....
Europe.....	.....	*20,326.08*	*36,818.70*	*78,362.35*
Austria.....	.....	2,823.85	4,678.31	4,136.98
Bulgaria.....	.....	.....	.....	3,007.46
Czechoslovakia.	.....	.....	297.62	4,318.76
France.....	.....	3,441.75	18,657.19	24,486.47
Hungary.....	.....	.....	498.52	500.00
Irish Free State	.....	.....	.....	.....
Italy.....	.....	.....	.....	.....
Poland.....	.....	14,060.48	12,687.06	27,912.68
Rumania.....	.....	.....	.....	.....
Spain.....	.....	.....	.....	.....
Yugoslavia.....	.....	.....	.....	14,000.00
The East.....	.....	*363.34*	.....	*194.12*
Ceylon.....	.....	.....	.....	144.10
India.....	.....	.....	.....	.....
Philippine Islands.....	.....	363.34	.....	50.02
China, Shanghai	.....	.....	.....	.....
Siam.....	.....	.....	.....	.....
State Health Services..	*208,465.12*	*130,356.11*	*106,013.93*	*121,335.35*
Sanitary Engineering	7,360.07	4,225.00	5,374.33	5,510.53
United States.....	*7,360.07*	*4,225.00*	*5,374.33*	*5,510.53*
Alabama.....	.....	.....	1,447.85	1,334.12
Colorado.....	1,200.00	800.00	.....	.....
Connecticut....	.....	375.00	.....	.....
Idaho.....	.....	1,600.00	1,578.67	1,600.00
Indiana.....	.....	.....	.....	.....
Iowa.....	.....	.....	58.33	349.98
Maine.....	.....	350.00	700.00	350.00
Missouri.....	1,418.43	.....	.....	.....
Montana.....	2,782.58	950.00	.....	.....

* Reports incomplete.

1913–1931 Inclusive, Covering all Activities—Continued

1928	1929	1930	1931	Total
$149,615.92	**$171,758.21**	**$150,136.41**	**$86,945.81**	**$892,463.30**
26,138.45	*38,806.84*	*43,697.19*	*34,027.51*	*218,744.92*
2,239.15	*4,402.03*	*4,672.60*	*9,794.52*	*21,108.30*
.....	.....	.....	*510.00*	*510.00*
.....	.....	.....	510.00	510.00
5,289.43	*8,016.32*	*11,140.11*	*11,268.35*	*40,816.62*
4,710.16	5,232.06	5,704.93	5,469.10	26,218.66
579.27	2,784.26	5,435.18	5,799.25	14,597.96
27,673.62	*16,770.99*	*3,683.15*	.....	*164,892.78*
27,673.62	16,710.77	3,683.15	.....	164,832.56
.....	60.22	.....	.....	60.22
86,729.80	*93,231.81*	*73,822.48*	*21,704.91*	*410,996.13*
3,631.88	7,081.63	7,509.94	*.....	29,862.59
1,374.91	1,273.28	.....	.....	5,655.65
10,730.74	7,627.25	6,414.99	*568.70	29,958.06
19,728.57	17,101.22	13,143.20	*2,308.97	98,867.37
5,675.90	10,716.28	16,430.06	*.....	33,820.76
5,675.80	10,195.82	7,654.50	*4,975.70	28,501.82
.....	.....	.....	*3,930.34	3,930.34
19,912.00	23,669.70	15,781.91	*.....	114,023.83
.....	.....	.....	*4,734.10	4,734.10
.....	15,566.63	6,887.88	*5,187.10	27,641.61
20,000.00	.....	.....	.....	34,000.00
1,545.47	*10,530.22*	*13,120.88*	*9,640.52*	*35,394.55*
166.56	.....	.....	.....	310.66
.....	3,168.91	6,410.76	*5,205.14	14,784.81
.....	491.63	900.62	2,127.70	3,933.31
.....	6,869.68	5,809.50	2,307.68	14,986.86
1,378.91	.....	.....	.....	1,378.91
146,023.82	***174,171.48***	***158,806.03***	***119,512.12***	***1,164,683.96***
8,242.06	**11,170.54**	**11,087.69**	**11,515.18**	**64,485.40**
8,242.06	*8,261.01*	*5,861.85*	*5,993.04*	*50,827.89*
.....	.....	.....	.....	2,781.97
.....	.....	.....	.....	2,000.00
.....	.....	.....	.....	375.00
1,599.89	800.00	.....	.....	7,178.56
2,756.15	2,573.37	.....	.....	5,329.52
.....	.....	.....	.....	408.31
.....	.....	.....	.....	1,400.00
.....	.....	.....	.....	1,418.43
.....	.....	.....	.....	3,732.58

Table of Expenditures for Public Health Work for the Years

Activity, Country, and State	July 1, 1913–Dec. 31, 1924	1925	1926	1927
General Budget (*Cont.*)				
State Health Services (*Cont.*)				
Sanitary Engineering (*Cont.*)				
United States (*Cont.*)				
North Dakota..	$477.73	$.....	$.....	$.....
Oregon.....	.....	.....	1,214.30	733.10
South Carolina..	.....	.....	.....	.....
South Dakota..	.....	.....	.....	.....
Tennessee.....	.....	.....	375.18	1,143.33
Utah.....	1,481.33	150.00	.....	.....
Foreign Countries.	.....	.....	.....	.....
Greece.....	.....	.....	.....	.....
India, Mysore State.....	.....	.....	.....	.....
Poland.....	.....	.....	.....	.....
Public Health Laboratories	**82,113.75**	**32,531.96**	**28,030.34**	**27,391.79**
United States.....	*58,277.77*	*21,657.65*	*18,331.20*	*16,387.39*
Alabama.....	25,795.35	7,479.00	7,494.53	5,403.75
Arizona	.....	.....	.....	.....
Arkansas.....	5,512.55	1,195.41	.....	.....
Connecticut....	375.00	1,800.00	.....	.....
Delaware.....	1,500.00	.....	.....	.....
Florida.....	.....	.....	.....	.....
Kansas.....	10,701.90	.....	.....	.....
Louisiana.....	.....	.....	.....	.....
Maine.....	.....	600.00	1,300.00	780.00
Mississippi.....	.....	.....	.....	.....
Missouri.....	2,942.40	1,771.48	2,049.17	3,600.00
Montana.....	2,776.74	1,050.00	.....	.....
Oregon.....	3,588.37	1,120.32	340.98	.....
South Carolina..	.....	498.92	300.00	.....
Tennessee.....	1,016.66	2,301.16	938.13	985.00
Texas.....	.....	70.83	2,789.82	2,992.40
Utah.....	1,900.00	2,775.00	2,868.92	2,626.24
Virginia.....	1,953.47	995.53	249.65	.....
Demonstrations.	215.33	.....	.....	.....
Foreign Countries.	*23,835.98*	*10,874.31*	*9,699.14*	*11,004.40*
Colombia.....	.....	.....	410.50	4,896.99
Costa Rica.....	3,297.53	3,633.12	2,757.05	175.00
Guatemala.....	4,226.55	1,546.64	1,572.68	1,268.24
Honduras.....	698.37	.....	.....	.....
Hungary.....	.....	.....	.....	.....
Nicaragua.....	10,892.84	5,694.55	4,958.91	4,664.17
Porto Rico.....	.....	.....	.....	.....
Salvador.....	4,720.69	.....	.....	.....

* Reports incomplete.

1913–1931 Inclusive, Covering all Activities—Continued

1928	1929	1930	1931	Total
$536.02	$1,500.00	$1,452.36	$1,950.00	$5,916.11
.....	.....	.....	.....	1,947.40
3,350.00	2,500.00	2,100.00	1,800.00	9,750.00
.....	887.64	2,309.49	2,243.04	5,440.17
.....	.....	.....	.....	1,518.51
.....	.....	.....	.....	1,631.33
.....	*2,909.53*	*5,225.84*	*5,522.14*	*13,657.51*
.....	.....	.....	4,192.39	4,192.39
.....	1,763.60	2,659.50	1,329.75	5,752.85
.....	1,145.93	2,566.34	*.....	3,712.27
25,489.57	**21,678.48**	**13,822.79**	**11,001.59**	**242,060.27**
12,757.31	*9,456.49*	*7,035.83*	*4,559.39*	*148,463.03*
.....	.....	.....	.....	46,172.63
.....	.....	.....	*.....	.....
.....	.....	.....	.....	6,707.96
.....	.....	.....	.....	2,175.00
.....	.....	.....	.....	1,500.00
.....	.....	900.00	*450.00	1,350.00
.....	.....	.....	.....	10,701.90
444.43	.....	.....	.....	444.43
.....	.....	.....	.....	2,680.00
.....	3,753.99	3,600.00	1,575.00	8,928.99
4,350.00	1,800.00	.....	.....	16,513.05
.....	.....	.....	.....	3,826.74
.....	.....	.....	.....	5,049.67
1,000.00	1,000.00	600.00	600.00	3,998.92
1,754.36	2,902.50	1,935.83	1,934.39	13,768.03
650.00	.....	.....	.....	6,503.05
3,058.52	.....	.....	.....	13,228.68
1,500.00	.....	.....	.....	4,698.65
.....	.....	.....	.....	215.33
12,732.26	*12,221.99*	*6,786.96*	*6,442.20*	*93,597.24*
4,910.49	4,859.44	4,842.54	4,897.55	24,817.51
.....	.....	.....	.....	9,862.70
4,446.99	492.55	.....	.....	13,553.65
.....	1,000.00	1,000.00	.....	2,698.37
.....	1,870.00	944.42	.....	2,814.42
3,374.78	4,000.00	.....	545.00	34,130.25
.....	.....	.....	999.65	999.65
.....	.....	.....	.....	4,720.69

Table of Expenditures for Public Health Work for the Years

Activity, Country, and State	July 1, 1913–Dec. 31, 1924	1925	1926	1927
General Budget (*Cont.*)				
State Health Services (*Cont.*)				
Epidemiology	**$7,655.96**	**$10,414.62**	**$11,053.47**	**$18,913.30**
United States	*7,655.96*	*10,414.62*	*11,053.47*	*16,772.78*
Alabama	2,229.04	5,049.68	2,277.26	3,977.77
Arizona	.....	.....	.....	.....
Georgia	.....	.....	.....	.....
Iowa	.....	.....	.....	.....
Kansas	.....	236.62	406.72	228.96
Kentucky	.....	.....	.....	.....
Louisiana	.....	.....	.....	1,930.25
Maryland	.....	.....	.....	.....
Michigan	.....	.....	.....	.....
Mississippi	.....	.....	1,819.08	3,337.50
Montana	.....	.....	.....	.....
New York	.....	.....	.....	.....
North Carolina	.....	.....	.....	.....
North Dakota	.....	.....	.....	.....
Rhode Island	.....	537.68	1,653.79	854.58
South Carolina	.....	.....	193.75	775.00
South Dakota	.....	.....	1,142.32	1,275.00
Tennessee	.....	924.33	2,701.05	2,453.23
Utah	2,701.72	2,735.35	859.50	600.00
Virginia	2,725.20	930.96	.....	.....
Conference of epidemiologists	.....	.....	.....	1,340.49
Foreign Countries	.....	.....	.....	*2,140.52*
Austria	.....	.....	.....	.....
Canada	.....	.....	.....	.....
Denmark	.....	.....	.....	2,140.52
Spain	.....	.....	.....	.....
Vital Statistics	**2,106.66**	**4,938.09**	**11,447.75**	**12,842.73**
United States	*2,106.66*	*4,938.09*	*9,866.56*	*9,234.97*
Alabama	.....	665.00	847.50	990.00
Arkansas	.....	.....	1,350.00	750.00
Georgia	400.00	.....	.....	.....
Iowa	.....	.....	2,100.00	1,500.00
Massachusetts	.....	.....	.....	.....
Mississippi	.....	700.00	882.38	2,204.97
Montana	.....	1,250.00	2,500.00	1,250.00
New Mexico	.....	.....	.....	.....
Oklahoma	.....	.....	686.68	500.00
Oregon	.....	.....	.....	.....
South Carolina	.....	.....	.....	290.00

1913–1931 Inclusive, Covering all Activities—Continued

1928	1929	1930	1931	Total
$22,802.67	**$36,276.00**	**$37,202.56**	**$41,796.88**	**$186,115.46**
17,925.40	*25,939.33*	*28,862.58*	*33,249.23*	*151,873.37*
.....	.....	.....	.....	13,533.75
.....	.....	2,612.50	.....	2,612.50
.....	812.50	.....	1,729.37	2,541.87
.....	.....	2,200.00	2,100.00	4,300.00
.....	.....	.....	.....	872.30
1,788.28	3,500.00	3,500.00	3,500.00	12,288.28
.....	.....	.....	.....	1,930.25
.....	.....	.....	3,030.99	3,030.99
.....	.....	.....	4,600.00	4,600.00
1,490.92	5,172.50	4,200.00	4,433.35	20,453.35
2,625.00	3,500.00	3,500.00	3,500.00	13,125.00
.....	.....	340.00	541.64	881.64
3,543.75	4,725.00	.....	.....	8,268.75
1,108.74	2,700.00	2,700.00	1,600.00	8,108.74
.....	.....	.....	.....	3,046.05
3,175.00	2,500.00	2,100.00	836.88	9,580.63
.....	1,004.33	2,300.00	2,176.55	7,898.20
2,250.00	2,025.00	5,410.08	5,200.45	20,964.14
1,943.71	.....	.....	.....	8,840.28
.....	.....	.....	.....	3,656.16
.....	.....	.....	.....	1,340.49
4,877.27	*10,336.67*	*8,339.98*	*8,547.65*	*34,242.09*
.....	.....	.....	2,152.02	2,152.02
.....	876.93	1,654.32	1,229.72	3,760.97
4,877.27	5,355.91	5,374.54	5,165.91	22,914.15
.....	4,103.83	1,311.12	.....	5,414.95
19,257.68	**42,616.57**	**24,319.72**	**22,397.60**	**139,926.80**
7,656.16	*16,593.29*	*3,435.00*	*4,383.78*	*58,214.51*
.....	.....	.....	.....	2,502.50
.....	.....	.....	.....	2,100.00
1,200.00	1,200.00	.....	.....	2,800.00
.....	.....	.....	.....	3,600.00
.....	.....	1,960.00	2,989.54	4,949.54
902.73	3,270.50	.....	.....	7,960.58
.....	.....	.....	.....	5,000.00
600.00	2,400.00	.....	.....	3,000.00
.....	.....	.....	.....	1,186.68
.....	.....	375.00	187.50	562.50
1,250.00	.....	.....	.....	1,540.00

Table of Expenditures for Public Health Work for the Years

Activity, Country, and State	July 1, 1913–Dec. 31, 1924	1925	1926	1927
General Budget (*Cont.*)				
State Health Services (*Cont.*)				
Vital Statistics (*Cont.*)				
United States (*Cont.*)				
Tennessee	$.....	$1,273.09	$1,500.00	$1,750.00
Texas	.....	.....	.....	.....
West Virginia	1,706.66	1,050.00	.....	.....
Foreign Countries	.....	.....	*1,581.19*	*3,607.76*
Bulgaria	.....	.....	.....	1,139.50
Colombia	.....	.....	.....	863.67
Denmark	.....	.....	1,581.19	1,604.59
France	.....	.....	.....	.....
Rumania	.....	.....	.....	.....
Spain	.....	.....	.....	.....
Yugoslavia	.....	.....	.....	.....
Public Health Nursing	**46,734.50**	**45,705.45**	**19,109.36**	**20,831.69**
Brazil	46,734.50	19,966.72	15,510.29	17,269.63
Denmark	.....	.....	.....	.....
France	.....	25,738.73	3,599.07	3,562.06
Poland	.....	.....	.....	.....
Yugoslavia	.....	.....	.....	.....
Public Health Administration	.....	.....	.....	.....
Guatemala	.....	.....	.....	.....
Porto Rico	.....	.....	.....	.....
Bureaus for Study and Reform of Public Health Activities	**60,270.44**	**32,540.99**	**30,644.22**	**34,390.90**
Czechoslovakia	55,270.44	7,720.00	7,720.00	7,594.47
France	5,000.00	13,638.69	10,614.56	12,212.76
Hungary	.....	4,987.67	5,000.00	4,991.74
Poland	.....	6,194.63	7,309.66	9,591.93
Other State Health Services	**2,223.74**	.....	**354.46**	**1,454.41**
United States	.....	.....	.....	*900.00*
Illinois	.....	.....	.....	100.00
Iowa	.....	.....	.....	800.00

* Reports incomplete.

1913–1931 Inclusive, Covering all Activities—Continued

1928	1929	1930	1931	Total
$1,000.00	$1,050.00	$1,100.00	$1,206.74	$8,879.83
2,703.43	8,672.79	.....	.....	11,376.22
.....	.....	.....	.....	2,756.66
11,601.52	*26,023.28*	*20,884.72*	*18,013.82*	*81,712.29*
.....	.....	.....	.....	1,139.50
.....	.....	.....	.....	863.67
1,608.31	2,401.95	789.48	402.72	8,388.24
.....	4,111.51	.....	.....	4,111.51
.....	.....	11,764.18	14,287.04	26,051.22
.....	8,175.14	4,719.98	2,559.05	15,454.17
9,993.21	11,334.68	3,611.08	765.01	25,703.98
13,525.09	**17,945.78**	**13,118.88**	**5,743.41**	**182,714.16**
11,041.93	5,952.13	2,727.89	1,559.67	120,762.76
.....	4,678.35	5,626.39	3,883.74	14,188.48
2,483.16	5,674.99	2,705.88	.....	43,763.89
.....	1,140.31	1,308.72	*.....	2,449.03
.....	500.00	750.00	300.00	1,550.00
		10,936.01	**13,348.82**	**24,284.83**
.....	.....	2,116.45	4,235.54	6,351.99
.....	.....	8,819.56	9,113.28	17,932.84
.....	.....			
				214,590.85
26,654.59	**18,294.92**	**11,794.79**	.....	78,304.91
.....	.....	.....	.....	76,988.56
11,932.79	11,794.97	11,794.79	*.....	21,473.24
4,993.83	1,500.00	.....	.....	37,824.14
9,727.97	4,999.95	.....	.....	
30,052.16	**26,189.19**	**36,523.59**	**13,708.64**	**110,506.19**
7,742.22	*5,685.41*	*18,325.43*	*6,618.25*	*39,271.31*
236.67	50.00	.....	.....	386.67
1,600.00	1,833.33	.....	.....	4,233.33

Table of Expenditures for Public Health Work for the Years

Activity, Country, and State	July 1, 1913–Dec. 31, 1924	1925	1926	1927
General Budget (*Cont.*)				
State Health Services (*Cont.*)				
Other State Health Services (*Cont.*)				
United States (*Cont.*)				
Nevada	$.....	$.....	$.....	$.....
New York City	.....	.....	.....	.....
New York State	.....	.....	.....	.....
North Carolina	.....	.....	.....	.....
North Dakota	.....	.....	.....	.....
South Carolina	.....	.....	.....	.....
Foreign Countries	*2,223.74*	.....	*354.46*	*554.41*
British Colonial Office	.....	.....	.....	.....
Bulgaria	.....	.....	.....	.....
Canada	577.93	.....	.....	.....
Ceylon	.....	.....	.....	.....
Hungary	.....	.....	.....	.....
India	.....	.....	.....	.....
Jamaica	.....	.....	354.46	554.41
Netherlands East Indies	.....	.....	.....	.....
Philippine Islands	1,645.81	.....	.....	.....
Poland	.....	.....	.....	.....
Health Organization of League of Nations	***265,361.49***	***179,096.14***	***126,942.14***	***124,321.20***
Interchange of public health personnel	169,453.22	99,866.49	73,484.58	49,817.98
Epidemiological Intelligence and Public Health Statistics Service, and Center of Public Health Documentation	89,369.80	52,427.38	40,810.43	49,503.22
Epidemiological Intelligence Bureau, Far East	.....	26,802.27	12,647.13	25,000.00
Travel expenses of delegate to public health conference	3,087.38	.....	.....	.....
Conference in Singapore	3,451.09	.....	.....	.....

* Reports incomplete.
† Appropriations for 1930 and subsequent years were made direct by The Rockefeller Foundation.

1913–1931 Inclusive, Covering All Activities—Continued

1928	1929	1930	1931	Total
$.....	$468.75	$750.00	$750.00	$1,968.75
.....	.....	17,250.00	1,750.00	19,000.00
.....	.....	.....	1,000.00	1,000.00
4,805.55	3,333.33	.....	.....	8,138.88
.....	.....	325.43	3,118.25	3,443.68
1,100.00	.....	.....	.....	1,100.00
22,309.94	*20,503.78*	*18,198.16*	*7,090.39*	*71,234.88*
.....	.....	.....	2,435.00	2,435.00
704.69	.....	.....	.....	704.69
.....	.....	.....	.....	577.93
.....	.....	.....	420.84	420.84
9,206.71	1,973.19	4,703.46	*.....	15,883.36
.....	.....	.....	141.92	141.92
590.97	691.87	2,183.34	2,171.00	6,546.05
11,469.42	16,533.54	9,889.84	1,921.63	39,814.43
.....	.....	.....	.....	1,645.81
338.15	1,305.18	1,421.52	.....	3,064.85
123,497.81	*123,905.27*	†.....	.....	*943,124.05*
51,206.90	49,830.39	.....	.....	493,659.56
58,587.35	53,780.97	.....	.....	344,479.15
13,703.56	20,293.91	.....	.....	98,446.87
.....	.....	.....	.....	3,087.38
.....	.....	.....	.....	3,451.09

Table of Expenditures for Public Health Work for the Years

Activity, Country, and State	July 1, 1913–Dec. 31, 1924	1925	1926	1927
General Budget (*Cont.*)				
Public Health Education	*$770,778.75*	*$301,052.09*	*$357,872.42*	*$362,885.07*
Fellowships	594,535.84	230,514.57	270,661.77	262,109.47
Study and training courses and travel of visiting scientists and health workers	61,753.06	24,983.20	48,174.21	42,498.76
Training stations	1,860.06	18,480.38	8,568.24	12,702.46
United States	*1,860.06*	*18,480.38*	*8,568.24*	*12,702.46*
Alabama	1,860.06	18,480.38	8,568.24	6,024.80
Michigan	.....	.....	.....	.....
Ohio	.....	.....	.....	6,677.66
Foreign Countries	.....	.....	.....	.....
Canada	.....	.....	.....	.....
Italy	.....	.....	.....	.....
Nigeria	.....	.....	.....	.....
Teaching of hygiene in medical schools	34.69	.....	5,500.00	8,500.00
Committee of Association of American Medical Colleges. Study	34.69	.....	.....	.....
Harvard Medical School Preparation of syllabus	.....	.....	5,500.00	8,500.00
Central Medical School for Native Medical Students, Suva, Fiji	.....	.....	.....	9,660.00
First Midwifery School, Peiping, China	.....	.....	.....	.....
Schools of hygiene and institutes of public health. Maintenance	112,595.10	27,073.94	24,968.20	27,414.38
Brazil, São Paulo	87,841.70	4,065.22	25.95	.....
England, London	15,953.40	20,008.72	20,262.25	19,414.38
Hungary, Budapest	.....	.....	.....	3,680.00
Norway, Oslo (School)	.....	.....	.....	.....
Norway, Oslo (Institute)	.....	.....	.....	.....
Poland, Warsaw	8,800.00	3,000.00	4,680.00	4,320.00

* Reports incomplete.

1913–1931 Inclusive, Covering All Activities—Continued

1928	1929	1930	1931	Total
$325,936.61	$440,643.91	$381,459.21	$306,021.91	$3,246,649.97
209,078.69	328,126.24	285,753.43	*219,117.19	2,399,897.20
46,407.49	52,602.05	46,640.85	*40,631.54	363,691.16
25,214.71	8,514.60	14,675.86	10,580.56	100,596.87
19,784.90	2,859.06	6,466.69	2,723.00	73,444.79
11,795.11	.....	.....	.....	46,728.59
.....	1,831.31	6,466.69	2,723.00	11,021.00
7,989.79	1,027.75	.....	.....	15,695.20
5,429.81	5,655.54	8,209.17	7,857.56	27,152.08
.....	456.62	4,250.36	4,875.00	9,581.98
5,429.81	5,198.92	3,958.81	2,982.56	17,570.10
.....	.....	.....	9,191.13	9,191.13
.....	.....	.....	.....	14,034.69
.....	.....	.....	.....	34.69
.....	.....	.....	.....	14,000.00
25,752.59	20,867.30	15,388.56	5,910.06	77,578.51
.....	1,982.51	11,488.50	5,317.36	18,788.37
19,483.13	28,551.21	7,512.01	8,707.41	256,305.38
.....	.....	.....	.....	91,932.87
19,483.13	24,295.83	.....	.....	119,417.71
.....	2,807.02	2,122.56	.....	8,609.58
.....	.....	1,277.85	1,277.86	2,555.71
.....	1,448.36	4,111.60	7,429.55	12,989.51
.....	.....	.....	.....	20,800.00

Table of Expenditures for Public Health Work for the Years

Activity, Country, and State	July 1, 1913–Dec. 31, 1924	1925	1926	1927
General Budget (*Cont.*)				
Public Health Education (*Cont.*)				
Schools of Nursing..	$.....	$.....	$.....	$.....
University of Washington, Seattle.....	.....	.....	.....	.....
Washington University, St. Louis	.....	.....	.....	.....
Control of Specific Diseases; Investigations.	***7,302,240.29***	***807,129.13***	***828,081.90***	***672,110.20***
Hookworm Disease..	**2,879,579.99**	**201,401.95**	**175,977.76**	**143,638.71**
Control.....	*2,713,976.15*	*185,477.36*	*149,047.17*	*108,725.75*
United States†..	*439,086.04*	*25.00*	.....	.....
Alabama.....	29,800.82	25.00	.....	.....
Arkansas.....	1,520.03	.....	.....	.....
Georgia.....	37,561.08	.....	.....	.....
Kentucky....	30,536.72	.....	.....	.....
Louisiana....	6,309.34	.....	.....	.....
Mississippi...	66,106.48	.....	.....	.....
North Carolina	37,754.96	.....	.....	.....
SouthCarolina	65,072.26	.....	.....	.....
Tennessee....	54,649.32	.....	.....	.....
Texas.....	53,688.83	.....	.....	.....
Virginia.....	51,289.28	.....	.....	.....
Countydispensary work in the South..	4,796.92	.....	.....	.....
Mexico.....	*18,552.81*	*21,525.12*	*13,606.00*	*6,855.39*
Central America	*580,156.17*	*24,721.10*	*15,050.40*	*9,919.77*
Costa Rica ..	117,599.82	3,754.50	750.00	.....
Guatemala...	111,863.45	7,937.14	4,474.41	3,138.04
Honduras....	11,662.70	.....	.....	.....
Nicaragua....	109,780.90	.....	.....	.....
Panama.....	182,265.04	13,029.46	9,825.99	6,781.73
Salvador.....	45,366.89	.....	.....	.....
Administration.....	1,617.37	.....	.....	.....
West Indies....	*536,137.58*	*49,075.91*	*21,647.96*	*12,252.21*
Antigua.....	15,870.14	.....	.....	.....
British Guiana‡.....	73,957.52	.....	.....	.....
Dutch Guiana‡.....	60,073.91	.....	.....	.....

† In September, 1917, the hookworm work in the Southern States began to be absorbed into the states than in others, it was not possible to announce until the end of 1920 that in all the states the county efforts directed toward the relief and control of hookworm and other soil-borne diseases.

‡ For administrative reasons British and Dutch Guiana, although on the mainland of South America,

1913–1931 Inclusive, Covering All Activities—Continued

1928	1929	1930	1931	Total
			$6,566.66	$6,566.66
$.....	$.....	$.....		
			2,500.00	2,500.00
.....	.....	.....		
			4,066.66	4,066.66
.....	.....	.....		
			799,519.93	*12,186,458.02*
558,064.41	*593,285.61*	*626,026.55*	52,452.43	3,680,371.16
94,245.99	77,678.29	55,396.04	*9,863.15*	*3,278,995.02*
60,806.83	*39,498.14*	*11,600.47*	.....	*439,111.04*
.....	.....	.....	.....	29,825.82
.....	.....	.....	.....	1,520.03
.....	.....	.....	.....	37,561.08
.....	.....	.....	.....	30,536.72
.....	.....	.....	.....	6,309.34
.....	.....	.....	.....	66,106.48
.....	.....	.....	.....	
			.....	37,754.96
.....	.....	.....	.....	65,072.26
.....	.....	.....	.....	54,649.32
.....	.....	.....	.....	53,688.83
.....	.....	.....	.....	51,289.28
				4,796.92
.....	.....	.....	.....	*60,539.32*
.....	.....	.....	.....	*639,238.50*
6,618.89	*2,772.17*	.....	.....	122,104.32
.....	.....	.....	.....	129,153.25
1,740.21	.....	.....	.....	11,662.70
.....	.....	.....	.....	109,780.90
.....	.....	.....	.....	219,553.07
4,878.68	2,772.17	.....	.....	45,366.89
.....	.....	.....		
			.....	1,617.37
.....	.....	.....	.....	*648,410.61*
15,090.67	*14,206.28*	.....	.....	15,870.14
.....	.....	.....		
			.....	73,957.52
.....	.....	.....		
			.....	60,073.91
.....	.....	.....		

programs of the rapidly developing departments of health. The period of transition being longer in some health departments would henceforth assume, as one of their regular functions, responsibility for all

are listed with the West Indies.

Table of Expenditures for Public Health Work for the Years

Activity, Country, and State	July 1, 1913–Dec. 31, 1924	1925	1926	1927
General Budget (*Cont.*)				
Control of Specific Diseases; Investigations (*Cont.*)				
Hookworm (*Cont.*)				
Control (*Cont.*)				
West Indies (*Cont.*)				
Grenada	$39,307.32	$.....	$.....	$.....
Haiti	3,763.42	6,332.54	.....	.....
Jamaica	55,540.58	25,481.08	15,902.41	9,648.49
Porto Rico	70,049.85	17,262.29	5,745.55	2,603.72
St. Lucia	82,009.02	.....	.....	.....
St. Vincent	22,889.48	.....	.....	.....
Trinidad	101,645.23	.....	.....	.....
Administration	11,031.11	.....	.....	.....
South America	*824,547.42*	*50,528.74*	*54,266.75*	*39,723.68*
Brazil	769,666.20	11,389.92	.....	.....
Colombia	45,350.10	20,115.55	34,920.11	24,762.95
Paraguay	9,531.12	19,023.27	19,346.64	12,436.98
Venezuela	.....	.....	.....	2,523.75
Europe	*699.36*	*4,948.21*	*939.00*	*1,517.39*
Spain	699.36	4,948.21	939.00	1,517.39
The East	*314,796.77*	*34,653.28*	*43,537.06*	*38,457.31*
Australia	94,578.73	.....	.....	.....
British North Borneo	4,782.10	.....	.....	.....
Ceylon	48,560.01	257.72	332.21	.....
China	8,099.03	.....	.....	.....
Egypt	16,769.60	.....	.....	.....
Fiji Islands	15,407.91	188.03	.....	.....
India	12,004.59	7,921.26	4,497.94	4,258.40
Java	2,828.23	5,156.80	10,410.92	8,471.49
Mauritius	4,315.60	.....	.....	.....
Sarawak	.....	.....	.....	584.42
Seychelles Islands	17,559.49	487.82	229.38	.....
Siam	63,149.84	16,205.27	15,890.97	12,279.42
South Pacific Islands	230.04	.....	.....	800.00
Straits Settlements	.....	4,436.38	12,175.64	12,063.58
Administration	26,511.60	.....	.....	.....

* Reports incomplete.

1913–1931 Inclusive, Covering All Activities—Continued

1928	1929	1930	1931	Total
				$39,307.32
$.....	$.....	$.....	$.....	10,095.96
.....	.....	.....	.....	116,411.91
6,436.07	3,403.28	.....	.....	115,119.01
8,654.60	10,803.00	.....	.....	82,009.02
.....	.....	.....	.....	22,889.48
.....	.....	.....	.....	101,645.23
.....	.....	.....	.....	11,031.11
.....	.....	.....	.....	*1,016,458.72*
20,939.45	*13,999.15*	*6,981.08*	*5,472.45*	781,056.12
.....	.....	.....	.....	166,140.51
14,813.01	13,725.26	6,981.08	5,472.45	66,156.62
5,544.72	273.89	.....	.....	3,105.47
581.72	.....	.....	.....	*16,295.39*
3,155.86	*2,806.91*	*2,015.61*	*213.05*	16,295.39
3,155.86	2,806.91	2,015.61	*213.05	*458,941.44*
15,001.96	*5,713.63*	*2,603.78*	*4,177.65*	94,578.73
.....	.....	.....	.....	4,782.10
.....	.....	.....	.....	49,149.94
.....	.....	.....	.....	8,099.03
.....	.....	.....	.....	28,243.72
.....	4,692.69	2,603.78	4,177.65	15,595.94
.....	.....	.....	.....	32,229.99
3,547.80	.....	.....	.....	26,867.44
.....	.....	.....	.....	4,315.60
.....	.....	.....	.....	584.42
.....	.....	.....	.....	18,276.69
.....	.....	.....	.....	113,666.88
5,120.44	1,020.94	.....	.....	1,030.04
.....	.....	.....	.....	35,009.32
6,333.72	.....	.....	.....	26,511.60
.....	.....	.....	.....	

Table of Expenditures for Public Health Work for the Years

Activity, Country, and State	July 1, 1913–Dec. 31, 1924	1925	1926	1927
General Budget (*Cont.*)				
Control of Specific Diseases; Investigations (*Cont.*)				
Hookworm (*Cont.*)				
Investigations....	*$90,790.59*	*$15,751.31*	*$26,822.10*	*$34,881.55*
Alabama.....	7,272.98	4,784.17	3,630.34	3,839.46
Brazil.....	1,227.31	.....	.....	.....
Ceylon.....	460.91	.....	.....	.....
Egypt.....	.....	.....	.....	5,236.79
Research in life history of hookworm eggs and larvæ	26,707.51	9,067.14	18,903.19	7,876.34
Research on carbon tetrachloride.....	14,308.21	1,900.00	4,288.57	17,928.96
Study of methods of diagnosing hookworm disease.....	1,302.52	.....	.....	.....
Study of hookworm in the pig.....	515.93	.....	.....	.....
Uncinariasis Commission to Orient.....	38,995.22	.....	.....	.....
Surveys.....	*39,954.54*	*173.28*	.....	.....
United States...	*28,309.39*	.....	.....	.....
Georgia.....	28,309.39	.....	.....	.....
Central America	*2,982.17*	.....	.....	.....
British Honduras.....	2,982.17	.....	.....	.....
West Indies....	*5,836.51*	*173.28*	.....	.....
Barbadoes...	515.04	.....	.....	.....
Cayman Islands.....	222.93	.....	.....	.....
Dominica....	930.14	.....	.....	.....
Jamaica.....	1,671.82	.....	.....	.....
Montserrat-Nevis.....	149.14	173.28	.....	.....
Porto Rico...	525.52	.....	.....	.....
Santo Domingo.....	388.09	.....	.....	.....
St. Kitts.....	1,007.92	.....	.....	.....
Tobago.....	425.91	.....	.....	.....

1913–1931 Inclusive, Covering All Activities—Continued

1928	1929	1930	1931	Total
$33,375.05	*$38,180.15*	*$43,795.57*	*$42,589.28*	*$326,185.60*
6,226.18	8,021.32	9,734.28	16,160.58	59,669.31
.....	.....	.....	.....	1,227.31
.....	.....	.....	.....	460.91
.....	4,244.06	4,562.43	5,381.80	19,425.08
7,152.85	6,817.13	6,268.61	4,661.98	87,454.75
19,996.02	19,097.64	23,230.25	16,384.92	117,134.57
.....	.....	.....	.....	1,302.52
.....	.....	.....	.....	515.93
.....	.....	.....	.....	38,995.22
.....	.....	.....	.....	*40,127.82*
.....	.....	.....	.....	*28,309.39*
.....	.....	.....	.....	28,309.39
.....	.....	.....	.....	*2,982.17*
.....	.....	.....	.....	2,982.17
.....	.....	.....	.....	*6,009.79*
.....	.....	.....	.....	515.04
.....	.....	.....	.....	222.93
.....	.....	.....	.....	930.14
.....	.....	.....	.....	1,671.82
.....	.....	.....	.....	322.42
.....	.....	.....	.....	525.52
.....	.....	.....	.....	388.09
.....	.....	.....	.....	1,007.92
.....	.....	.....	.....	425.91

Table of Expenditures for Public Health Work for the Years

Activity, Country, and State	July 1, 1913–Dec. 31, 1924	1925	1926	1927
General Budget (*Cont.*)				
Control of Specific Diseases; Investigations (*Cont.*)				
Hookworm (*Cont.*)				
Surveys (*Cont.*)				
South America..	*$1,984.82*	$.....	$.....	$.....
Colombia....	1,984.82	.....	.....	.....
The East.....	*841.65*	.....	.....	.....
British Solomon Islands	841.65	.....	.....	.....
Miscellaneous....	*34,858.71*	.....	*108.49*	*31.41*
Conferences of health officers.	7,552.87	.....	.....	.....
Motion picture film on hookworm disease.	4,437.13	.....	108.49	31.41
Thymol for distribution to field stations .	15,476.21	.....	.....	.....
Salvador				
Portable house and office..	6,623.04	.....	.....	.....
Loss from earthquake	406.46	.....	.....	.....
Dutch Guiana				
Care and storage of motor-boat ...	363.00	.....	.....	.....
Malaria.....	**599,514.76**	**144,034.49**	**177,801.93**	**201,343.68**
Control.....	*460,085.57*	*85,700.41*	*136,299.27*	*157,255.10*
United States...	*431,158.37*	*63,186.47*	*58,314.44*	*55,596.92*
Alabama.....	27,704.13	5,239.56	6,306.38	7,540.95
Arkansas.....	31,782.31	1,954.16	.....	.....
Florida.....	1,125.00	.....	.....	.....
Georgia.....	11,196.31	3,634.40	2,841.52	2,755.04
Illinois.....	2,257.32	3,214.92	.....	.....
Louisiana....	46,894.26	4,643.77	4,383.12	3,642.04
Mississippi...	160,517.62	10,639.39	12,983.13	12,749.59
Missouri.....	9,913.58	1,911.67	1,367.75	.....
North Carolina.....	38,286.76	7,401.41	4,404.42	4,555.60
South Carolina.....	48,297.11	9,035.86	9,700.00	10,800.00
Tennessee....	10,504.46	4,541.63	5,978.95	4,108.34
Texas.....	15,007.16	1,151.09	.....	.....
Virginia.....	27,672.35	9,818.61	10,349.17	9,445.36

1913–1931 Inclusive, Covering All Activities—Continued

1928	1929	1930	1931	Total
				$1,984.82
$.....	$.....	$.....	$.....	1,984.82
.....	.....	.....	.....	*841.65*
.....	.....	.....	.....	
				841.65
.....	.....	.....	.....	*35,062.72*
64.11	.....	.....	.....	
				7,552.87
.....	.....	.....	.....	
				4,641.14
64.11	.....	.....	.....	
				15,476.21
.....	.....	.....	.....	
				6,623.04
.....	.....	.....	.....	
				406.46
.....	.....	.....	.....	
				363.00
.....	.....	.....	.....	1,824,873.65
188,553.09	189,310.29	154,478.13	169,837.28	*1,381,292.92*
155,587.51	*154,109.42*	*120,805.21*	*111,450.43*	*699,289.62*
34,534.83	*28,988.30*	*15,396.07*	*12,114.22*	46,791.02
.....	.....	.....	.....	33,736.47
.....	.....	.....	.....	1,125.00
.....	.....	.....	.....	39,391.18
5,443.28	6,675.00	3,500.00	3,345.63	5,472.24
.....	.....	.....	.....	66,527.27
2,860.36	1,468.40	1,585.32	1,050.00	235,900.59
12,232.64	11,748.88	8,310.75	6,718.59	13,193.00
.....	.....	.....	.....	
				54,648.19
.....	.....	.....	.....	
				87,832.97
5,800.00	4,200.00	.....	.....	26,633.38
1,500.00	.....	.....	.....	16,158.25
.....	.....	.....	.....	71,880.06
6,698.55	4,896.02	2,000.00	1,000.00	

Table of Expenditures for Public Health Work for the Years

Activity, Country, and State	July 1, 1913–Dec. 31, 1924	1925	1926	1927
General Budget (*Cont.*)				
Control of Specific Diseases; Investigations (*Cont.*)				
Malaria (*Cont.*)				
Control (*Cont.*)				
Central America	*$6,811.90*	*$119.58*	*$.....*	*$.....*
Costa Rica ..	.....	.....	.....	.....
Nicaragua....	6,811.90	119.58	.....	.....
Panama.....	.....	.....	.....	.....
West Indies....	.....	.....	*476.64*	*489.16*
Grenada.....	.....	.....	.....	.....
Porto Rico...	.....	.....	476.64	489.16
South America..	*22,115.30*	*22,394.36*	*31,240.36*	*28,041.28*
Argentina....	.....	3,907.01	18,633.65	18,978.73
Brazil.....	18,863.78	18,487.35	12,606.71	9,062.55
Ecuador.....	3,251.52	.....	.....	.....
Venezuela....	.....	.....	.....	.....
Europe.....	.....	.....	*46,267.83*	*73,127.74*
Albania.....	.....	.....	.....	.....
Bulgaria.....	.....	.....	.....	.....
Italy.....	.....	.....	46,267.83	73,127.74
Spain.....	.....	.....	.....	.....
Surveys and Investigations.....	*126,174.34*	*55,690.24*	*40,209.06*	*44,088.58*
United States...	*26,362.55*	*13,473.26*	*21,082.16*	*21,958.60*
Alabama.....	.....	.....	.....	214.31
Florida.....	.....	.....	.....	.....
Georgia.....	16,368.64	9,662.91	.....	.....
Louisiana....	205.17	.....	.....	.....
Maryland....	2,927.74	.....	.....	.....
Mississippi...	2,875.44	.....	.....	.....
North Carolina.....	1,028.43	.....	15,116.94	15,185.86
Studies at Johns Hopkins School of Hygiene and Public Health.....	2,957.13	3,037.54	4,240.22	4,061.55
Studies at University of Chicago.	.....	772.81	1,725.00	2,496.88
West Indies....	*43,032.34*	*11,411.56*	.....	.....
Jamaica.....	.....	.....	.....	.....
Porto Rico...	43,032.34	11,411.56	.....	.....

1913–1931 Inclusive, Covering All Activities—Continued

1928	1929	1930	1931	Total
$........	$........	*$1,500.00*	*$4,093.94*	*$12,525.42*
....	....	1,500.00	1,500.00	3,000.00
....	....	....	....	6,931.48
....	....	....	2,593.94	2,593.94
982.39	*4,409.87*	*6,715.73*	*6,053.14*	*19,126.93*
....	....	211.00	....	211.00
982.39	4,409.87	6,504.73	6,053.14	18,915.93
21,766.31	*12,222.50*	*61.95*	....	*137,842.06*
11,040.37	6,933.88	....	....	59,493.64
10,026.58	4,825.81	....	....	73,872.78
....	....	....	....	3,251.52
699.36	462.81	61.95	....	1,224.12
98,303.98	*108,488.75*	*97,131.46*	*89,189.13*	*512,508.89*
....	....	....	9,555.75	9,555.75
7,239.57	8,515.39	15,507.50	17,035.42	48,297.88
84,691.03	94,311.75	79,130.20	57,106.43	434,634.98
6,373.38	5,661.61	2,493.76	5,491.53	20,020.28
32,965.58	*35,200.87*	*33,672.92*	*58,386.85*	*426,388.44*
13,925.58	*5,764.65*	*2,948.34*	*16,157.48*	*121,672.62*
378.52	....	....	....	592.83
....	....	....	13,158.32	13,158.32
....	....	....	....	26,031.55
....	....	....	....	205.17
....	....	....	....	2,927.74
....	....	....	....	2,875.44
8,626.57	1,891.67	....	....	41,849.47
3,670.49	2,623.39	950.00	....	21,540.32
1,250.00	1,249.59	1,998.34	2,999.16	12,491.78
1,745.81	*3,916.32*	*937.22*	*1,120.98*	*62,164.23*
1,745.81	837.65	937.22	856.22	4,376.90
....	....	....	....	54,443.90

Table of Expenditures for Public Health Work for the Years

Activity, Country, and State	July 1, 1913–Dec. 31, 1924	1925	1926	1927
General Budget (*Cont.*)				
Control of Specific Diseases; Investigations (*Cont.*)				
Malaria (*Cont.*)				
Surveys and Investigations (*Cont.*)				
West Indies (*Cont.*)				
Grenada				
Anopheline survey	$.....	$.....	$.....	$ .....
South America	*38,287.48*	.....	.....	*2,522.90*
Argentina	1,965.39	.....	.....	.....
Brazil	36,322.09	.....	.....	.....
Colombia				
Anopheline survey	.....	.....	.....	.....
Venezuela	.....	.....	.....	2,522.90
Europe	*5,805.01*	*25,386.14*	*12,531.40*	*16,208.94*
Albania	.....	.....	.....	.....
Austria	2,102.00	2,381.99	.....	.....
France, Corsica	.....	3,363.52	5,280.38	5,267.94
Greece	.....	.....	.....	.....
Italy	3,703.01	19,640.63	.....	.....
Italy and Germany	.....	.....	.....	.....
Netherlands	.....	.....	.....	5,092.20
Spain	.....	.....	7,251.02	5,848.80
Yugoslavia	.....	.....	.....	.....
The East	*12,686.96*	*5,419.28*	*6,595.50*	*3,398.14*
India	.....	.....	.....	.....
Palestine	2,694.15	242.74	.....	638.30
Philippine Islands	9,992.81	5,176.54	6,595.50	2,759.84
Miscellaneous	*13,254.85*	*2,643.84*	*1,293.60*	.....
Conference of malaria workers	2,431.33	.....	.....	.....
Motion picture film	10,522.77	.....	.....	.....
Entomological studies in the field	300.75	2,643.84	1,293.60	.....

* Reports incomplete.

1913–1931 Inclusive, Covering All Activities—Continued

1928	1929	1930	1931	Total
$.....	$3,078.67	$.....	$264.76	$3,343.43
.....	*2,949.38*	.....	*1,015.68*	*44,775.44*
.....	.....	.....	.....	1,965.39
.....	.....	.....	.....	36,322.09
				2,949.38
.....	2,949.38	.....	1,015.68	3,538.58
.....	.....	.....	*29,091.92*	*135,124.63*
12,241.93	*12,664.52*	*21,194.77*	1,000.00	1,000.00
.....	.....	.....	.....	4,483.99
.....	.....	.....		
			401.06	28,669.45
5,374.70	5,594.28	3,387.57	17,590.43	27,523.71
.....	.....	9,933.28	1,832.53	25,176.17
.....	.....	.....		
			2,346.99	2,346.99
.....	.....	.....	5,920.91	28,829.34
6,867.23	4,912.43	6,036.57	.....	13,099.82
.....	.....	.....	*	3,995.16
.....	2,157.81	1,837.35	*11,000.79*	*62,651.52*
5,052.26	*9,906.00*	*8,592.59*	756.79	6,418.93
452.38	3,808.26	1,401.50	.....	3,975.35
400.16	.....	.....		
			10,244.00	52,257.24
4,199.72	6,097.74	7,191.09	.....	*17,192.29*
.....	.....	.....		
			.....	2,431.33
.....	.....	.....	.....	10,522.77
.....	.....	.....		
			.....	4,238.19
.....	.....	.....		

Table of Expenditures for Public Health Work for the Years

Activity, Country, and State	July 1, 1913–Dec. 31, 1924	1925	1926	1927
General Budget (*Cont.*)				
Control of Specific Diseases; Investigations (*Cont.*)				
Yellow Fever.....	**$1,445,068.11**	**$450,045.08**	**$474,302.21**	**$326,085.60**
Control.....	*1,246,750.87*	*364,153.49*	*404,335.58*	*153,397.74*
Brazil.....	550,402.54	331,524.12	404,185.55	153,397.74
Colombia and Venezuela....	73,394.39	335.98	.....	.....
Countries bordering on Caribbean littoral and Amazon valley.....	14,920.82	.....	.....	.....
Ecuador.....	91,646.65	.....	.....	.....
Mexico and Central America..	400,039.06	32,293.39	150.03	.....
Peru.....	116,347.41	.....	.....	.....
Investigations and Surveys.....	*186,259.30*	*81,950.26*	*67,716.63*	*170,361.26*
West Africa....	3,000.00	66,693.50	57,700.76	160,746.72
Yellow fever commissions .	153,598.20	.....	.....	.....
Vaccine and serum.....	15,786.06	6,000.00	5,867.94	5,142.89
Research and training.....	13,875.04	9,256.76	4,147.93	4,471.65
Laboratory at Bahia, Brazil.	.....	.....	.....	.....
Surveys.....	.....	.....	.....	.....
Miscellaneous....	*12,057.94*	*3,941.33*	*2,250.00*	*2,326.60*
History of Yellow Fever....	12,057.94	3,941.33	2,250.00	2,326.60
Respiratory Diseases	.....	.....	.....	**1,042.21**
Verruga Peruana....	.....	.....	.....	.....
Tuberculosis.....	**2,378,077.43**	**11,647.61**	.....	.....
France.....	*2,378,077.43*	*11,647.61*	.....	.....
Inauguration of work.....	18,671.74	.....	.....	.....
Departmental organization..	210,690.31	.....	.....	.....
Public health visiting.....	369,320.58	.....	.....	.....
Educational division.....	510,308.01	.....	.....	.....
Medical division	786,989.01	.....	.....	.....
Contingent fund	12,428.58	.....	.....	.....

* Reports incomplete.

1913–1931 Inclusive, Covering all Activities—Continued

1928	1929	1930	1931	Total
$266,783.21	**$314,288.37**	**$366,648.42**	**$440,624.47**	**$4,083,845.47**
84,692.28	*131,752.26*	*179,904.18*	*260,684.09*	*2,825,670.49*
84,692.28	131,752.26	179,904.18	*260,684.09	2,096,542.76
.....	.....	.....	.....	73,730.37
.....	.....	.....	.....	14,920.82
.....	.....	.....	.....	91,646.65
.....	.....	.....	.....	432,482.48
.....	.....	.....	.....	116,347.41
180,085.93	*180,595.49*	*186,431.87*	*179,240.38*	*1,232,641.12*
151,268.55	108,968.04	106,319.95	69,717.61	724,415.13
.....	.....	.....	.....	153,598.20
2,141.08	.....	.....	.....	34,937.97
14,892.76	24,321.68	32,498.35	61,641.10	165,105.27
11,783.54	47,305.77	47,612.31	47,881.67	154,583.29
.....	.....	1.26	.....	1.26
2,005.00	*1,940.62*	*312.37*	*700.00*	*25,533.86*
2,005.00	1,940.62	312.37	700.00	25,533.86
2,680.32	**4,442.37**	**8,765.36**	**8,989.07**	**25,919.33**
1,295.82	.....	.....	.....	**1,295.82**
4,100.97	**5,786.58**	**31,103.27**	**67,837.07**	**2,498,552.93**
.....	.....	.....	.....	*2,389,725.04*
.....	.....	.....	.....	18,671.74
.....	.....	.....	.....	210,690.31
.....	.....	.....	.....	369,320.58
.....	.....	.....	.....	310,308.01
.....	.....	.....	.....	786,989.01
.....	.....	.....	.....	12,428.58
.....	.....	.....	.....	

Table of Expenditures for Public Health Work for the Years

Activity, Country, and State	July 1, 1913–Dec. 31, 1924	1925	1926	1927
General Budget (*Cont.*)				
Control of Specific Diseases; Investigations (*Cont.*)				
Tuberculosis (*Cont.*)				
France (*Cont.*)				
Postgraduate tuberculosis courses	$5,044.15	$.....	$.....	$.....
National Committee	32,988.01	11,647.61	.....	.....
Central administration	431,637.04	.....	.....	.....
Jamaica	.....	.....	.....	.....
United States	.....	.....	.....	.....
Henry Phipps Institute	.....	.....	.....	.....
Epidemiological Studies	.....	.....	.....	.....
Maryland	.....	.....	.....	.....
Tennessee	.....	.....	.....	.....
Virginia	.....	.....	.....	.....
Mexico	.....	.....	.....	.....
Porto Rico (Anemia investigations)	.....	.....	.....	.....
Sanitation	.....	.....	.....	.....
Field studies of bored-hole latrines				
Ceylon	.....	.....	.....	.....
India	.....	.....	.....	.....
Philippine Islands	.....	.....	.....	.....
Undulant Fever	.....	.....	.....	.....
France	.....	.....	.....	.....
Public Health Surveys	.....	.....	.....	.....
Travancore, India	.....	.....	.....	.....
Field Service	*3,353,202.13*	*610,919.99*	*666,773.33*	*678,066.41*
Salaries	2,139,035.04	371,709.96	410,494.23	409,170.41
Commutation	220,748.59	48,060.05	44,316.83	46,028.06
Travel	702,645.15	132,911.14	150,000.00	159,993.69
Medical examination	2,403.60	992.00	634.60	718.00
Insurance and retirement	253,250.39	38,550.62	38,647.74	42,851.84

* Reports incomplete.

1913–1931 Inclusive, Covering All Activities—Continued

1928	1929	1930	1931	Total
				$5,044.15
$.....	$.....	$.....	$.....	44,635.62
.....	.....	.....	.....	431,637.04
.....	.....	.....	.....	*48,827.89*
4,100.97	*5,786.58*	*11,103.27*	*27,837.07*	*60,000.00*
.....	.....	*20,000.00*	*40,000.00*	
.....	.....	20,000.00	40,000.00	60,000.00
.....	.....	**6,739.87**	**43,198.11**	**49,937.98**
.....	.....	.....	*	.....
.....	.....	3,823.39	11,603.50	15,426.89
.....	.....	2,916.48	7,670.16	10,586.64
.....	.....	.....	1,274.97	1,274.97
.....	.....	.....		
.....	.....	.....	22,649.48	22,649.48
405.01	**1,466.61**	**773.24**	**4,807.23**	**7,452.09**
			1,392.85	1,392.85
.....	.....	.....	743.88	3,388.74
405.01	1,466.61	773.24		
.....	.....	.....	2,670.50	2,670.50
.....	.....	**1,891.86**	**11,774.27**	**13,666.13**
.....	.....	1,891.86	11,774.27	13,666.13
.....	.....			**543.46**
.....	**313.10**	**230.36**	.....	543.46
.....	313.10	230.36	.....	
.....	***705,208.08***	***705,511.22***	***742,802.82***	***8,175,402.87***
712,918.89	441,997.31	454,920.53	501,013.35	5,166,458.71
438,117.88	44,782.55	42,042.98	43,748.03	538,840.22
49,113.13	154,593.72	152,637.39	151,312.67	1,763,098.43
159,004.67	527.00	514.25	730.20	6,919.65
400.00				
48,316.82	49,919.86	46,524.09	44,080.20	562,141.56

Table of Expenditures for Public Health Work for the Years

Activity, Country, and State	July 1, 1913–Dec. 31, 1924	1925	1926	1927
General Budget (*Cont.*)				
Field Service (*Cont.*)				
Bonding	$16,188.86	$4,983.11	$4,382.63	$3,541.03
Automobiles	6,134.96	930.14	2,379.59	1,333.60
Drugs for conserving health of field staff	443.34	38.63	32.20	23.18
Training of staff members	*1,484.45	.....	.....	.....
Brazil. Central office	10,568.05	12,744.34	15,885.51	14,406.60
The East. Office of the director	299.70	.....	.....	.....
Miscellaneous	***184,055.17***	***7,878.20***	***10,760.61***	***16,988.76***
Field equipment and supplies	59,448.49	6,689.78	5,302.81	13,486.60
Pamphlets and charts	41,052.72	2,884.85	6,290.94	1,549.04
Express, freight, and exchange	Cr. 132,340.56	Cr. 1,736.43	Cr. 932.26	1,523.22
Hookworm and malaria films donated or lent	990.82	40.00	99.12	429.90
Surveys and exhibits	129,006.46	.....	.....	.....
Library	1,844.12	.....	.....	.....
Investigation of powdered milk	1,278.60	.....	.....	.....
Paris conference on International Nomenclature of Causes of Death	615.30	.....	.....	.....
Compilation of mining sanitary code	203.18	.....	.....	.....
Smallpox vaccine for Vera Cruz, Mexico	165.62	.....	.....	.....
Plans for laboratory at Nictheroy, Brazil	429.98	.....	.....	.....
Adviser in medical education	8,535.46	.....	.....	.....
Investigation of sewage disposalin rural homes	10,311.51	.....	.....	.....
Philippine Hospital Ship	44,000.00	.....	.....	.....
Medical Commission to Brazil	18,513.47	.....	.....	.....

* Expenditures in subsequent years charged to Fellowships.

1913–1931 Inclusive, Covering all Activities—Continued

1928	1929	1930	1931	Total
$2,873.75	$2,763.03	$2,955.14	$1,918.37	$39,605.92
Cr. 572.35	.....	.....	.....	10,205.94
1.22	54.76	.....	.....	593.33
.....	.....	.....	.....	1,484.45
15,663.77	10,569.85	5,916.84	.....	85,754.96
.....	.....	.....	.....	299.70
19,279.89	***12,031.36***	***14,503.63***	***12,482.83***	***277,980.45***
14,694.95	6,802.02	5,389.48	5,422.70	117,236.83
4,072.07	4,699.43	8,250.00	6,692.41	75,491.46
575.44	455.58	864.15	367.72	Cr. 131,223.14
Cr. 62.57	74.33	.....	.....	1,571.60
.....	.....	.....	.....	129,006.46
.....	.....	.....	.....	1,844.12
.....	.....	.....	.....	1,278.60
.....	.....	.....	.....	615.30
.....	.....	.....	.....	203.18
.....	.....	.....	.....	165.62
.....	.....	.....	.....	429.98
.....	.....	.....	.....	8,535.46
.....	.....	.....	.....	10,311.51
.....	.....	.....	.....	44,000.00
.....	.....	.....	.....	18,513.47

Table of Expenditures for Public Health Work for the Years

Activity, Country, and State	July 1, 1913–Dec. 31, 1924	1925	1926	1927
Buildings, Equipment, and Endowment				
Schools and Institutes of Hygiene and Public Health	***$9,932,867.15***	***$1,099,931.20***	***$1,263,839.32***	***$1,414,262.06***
Brazil	.....	*3,595.40*	*46,900.00*	*23,987.00*
Bahia	.....	3,595.40	.....	.....
São Paulo	.....	.....	46,900.00	23,987.00
Bulgaria, Sofia	.....	.....	.....	.....
Canada, Toronto	.....	262,500.00	162,500.00	12,500.00
Czechoslovakia, Prague	18,196.57	202,886.77	160,475.99	95,054.50
Denmark, Copenhagen	.....	198,833.61	.....	.....
England, London	231,798.53	233,201.67	689,628.33	969,783.48
Hungary, Budapest	.....	40,000.00	.....	60,297.54
Italy, Rome	.....	.....	.....	.....
Norway, Oslo	.....	.....	86,050.00	100,626.54
Poland, Warsaw	292,500.00	.....	.....	.....
Trinidad, St. Augustine	.....	4,851.25	4,885.00	4,872.00
Turkey, Angora	.....	.....	.....	.....
United States	*9,390,372.05*	*31,250.00*	*25,000.00*	*137,250.00*
Harvard University	2,294,284.25	31,250.00	25,000.00	137,250.00
Johns Hopkins University	7,096,087.80	.....	.....	.....
Yugoslavia	.....	*122,812.50*	*88,400.00*	*9,891.00*
Belgrade	.....	33,950.00	.....	.....
Zagreb	.....	88,862.50	88,400.00	9,891.00
Schools of Nursing	.....	.....	***30,210.85***	***99,483.51***
D. Anna Nery School of Nursing, Brazil	.....	.....	30,210.85	99,483.51

1913–1931 Inclusive, Covering All Activities—Continued

1928	1929	1930	1931	Total
				$16,674,729.35
$734,515.45	***$1,027,112.61***	***$354,103.73***	***$848,097.83***	*191,747.28*
117,264.88	.....	.....	.....	3,595.40
.....	.....	.....	.....	188,151.88
117,264.88	.....	89,710.69	.....	89,710.69
.....	.....	.....	600,000.00	1,287,500.00
250,000.00	.....	.....	.....	804,043.10
189,212.08	31,192.90	107,024.29	.....	198,833.61
.....	.....	.....	.....	2,124,412.01
.....	.....	.....	.....	144,993.74
43,648.49	1,047.71	52,368.75	243,097.83	295,466.58
.....	.....	.....	.....	186,676.54
.....	.....	.....	.....	292,500.00
.....	.....	.....	5,000.00	34,370.25
4,890.00	4,872.00	5,000.00	.....	180,000.00
80,000.00	.....	100,000.00	.....	*10,623,372.05*
49,500.00	*990,000.00*	.....	.....	3,527,284.25
49,500.00	990,000.00	.....	.....	7,096,087.80
.....	.....	.....	.....	*221,103.50*
.....	.....	.....	.....	33,950.00
.....	.....	.....	.....	187,153.50
.....	.....	.....	.....	***129,694.36***
.....	.....	.....	.....	129,694.36
.....	.....	.....	.....	

THE MEDICAL SCIENCES

CONTENTS

THE MEDICAL SCIENCES

Retrospect of Program

The program of The Rockefeller Foundation in the medical sciences has had three objectives: first, to assist in strengthening the organization and increasing the influence of naturally important centers of medical education; secondly, to aid young men to acquire, advance, and transmit medical knowledge; and thirdly, to offer immediate aid in the acquisition of new knowledge through research. In the first instance it was the institution as a center of influence that mattered; in the second, the promise of the young scientist, regardless of the importance of the school with which he might be connected; and in the third, the probability of securing valuable advances in the medical sciences.

For a number of years preceding 1929 attention was given chiefly to the support of medical institutions. An extensive program of surveys of medical education and aid to influential medical centers in many parts of the world was carried out. Since 1929 interest has centered on the development and fostering of research; and the more recent undertakings have differed from earlier programs in being directly aimed at the

advancement of knowledge through aid to clinical and laboratory investigations, or assistance in the provision of more fully trained teaching personnel, instead of at the development of institutions as teaching organizations. As it is realized that the effectiveness and continuity of research work, no less than of schools of medicine, depend on the recruitment and training of the oncoming generations, that objective is kept steadily in view. This part of the program is executed principally through a system of fellowships.

Aid to Research Projects

The Medical Research Council, Great Britain

Research in Virus Diseases

The importance and promise of investigations on virus diseases have been referred to in former annual reports of The Rockefeller Foundation. During 1931 the Foundation made an appropriation to the Medical Research Council of Great Britain for studies of virus diseases at its National Institute for Medical Research, Hampstead, London, where such work has been in progress for some time and where, along several lines, research is far advanced. The studies are under the general direction of Sir Henry Dale. For a more detailed statement of this work the reader is referred to the annual reports of the Medical Research Council.

Columbia University

Studies of the Common Cold

Medical research workers are often rebuked for what is widely believed to be their indifference to, as well as their impotence before, the common cold. One of the most familiar of all ailments, and responsible in the aggregate for an enormous amount of time lost from work and play, the common cold has defied, with complete success, many attempts to comprehend its nature exactly and to prevent its invasions. During the past decade a great deal of attention has been given to the study of the exact nature of this disease. Dr. A. R. Dochez and his colleagues at Columbia University, New York City, have been at work on the problem for the past seven years and have developed leads deserving further investigation, especially with regard to the nature of the bacteria-free filtrate obtained from nasopharyngeal washings of persons suffering from colds.

It seems probable that the employment of methods and concepts of known value in the study of virus diseases will add substantially to our knowledge of the cause of colds. The Foundation has made an appropriation to provide for the continuance at Columbia University for a period of three years of studies of the common cold, under the leadership of Dr. Dochez.

The Medical Research Council

Study of Puerperal Fever

The Foundation has made a grant to the Medical Research Council of Great Britain toward the support of investigations into the causes of puerperal fever. This is to be carried out at Queen Charlotte's Maternity Hospital, London, where there has recently been built a new thirty-bed division exclusively for the treatment of patients suffering from puerperal fever. Attached to this division is a modern laboratory for research work, under the direction of Dr. Leonard Colebrook of the Bacteriological Department of the Medical Research Council, who is bacteriologist of the hospital. The studies now in progress in Dr. Colebrook's laboratory include bacteriological investigations of the organisms causing puerperal fever, serological studies of immunity to this infection, and chemotherapeutical studies, especially of arsenic compounds used in combating the infection. Payment of the Foundation grant is to be distributed over a period of seven years.

The Institute for Psychiatric Research, Munich, Germany

Research in Neurohistology, Serology, and Biochemistry

A grant has been made to the Institute for Psychiatric Research, Munich, for studies in

Photograph Excised Here

Institute for Psychiatric Research, Munich, Germany, which is receiving Foundation assistance for studies in neurohistology, serology, and biochemistry.

Photograph Excised Here

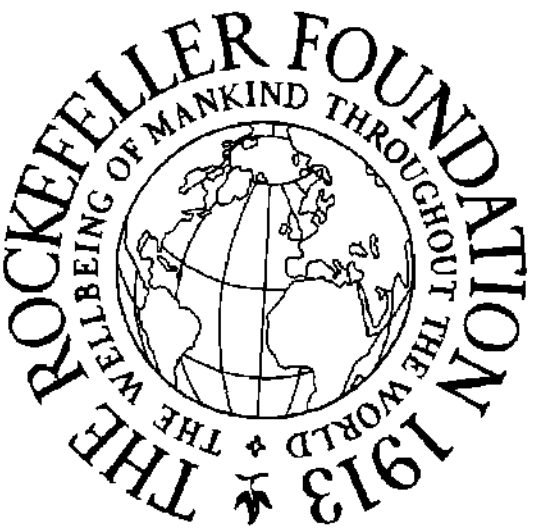
Research laboratory at Queen Charlotte's Maternity Hospital, London, where a study of puerperal fever is being conducted with Foundation aid.

neurohistology, serology, and biochemistry, under the direction of Dr. Walther Spielmeyer and Dr. Felix Plaut. Preliminary investigations have already been completed in connection with four problems on which work will now be done. These problems are the influence of circulatory disturbances on mental disease, the neuropathological factors influencing the development of acquired idiocy, the pathogenesis of general paralysis and allied disorders, and the biochemistry of the metabolism of brain tissues.

Yale University and the University of Rochester Research in Dental Pathology

An appropriation was made to Yale University, New Haven, Connecticut, for the continuation of research in dental pathology during the period July 1, 1931, to June 30, 1932. This undertaking at Yale University is devoted to the triple object of investigating the problem of infection; training a few scientifically inclined dental students or graduates, through fellowships and assistantships; and developing a department devoted to diseases peculiar to the teeth and mouth.

An appropriation was also made to the University of Rochester School of Medicine and Dentistry, Rochester, New York, for research in dental pathology during 1931. A staff of seven full-time and two part-time workers will continue



Photograph Excised Here

School of Tropical Medicine of the University of Porto Rico, where studies in nutrition are being made under the auspices of Columbia University, with assistance from the Foundation.

Photograph Excised Here

University of Szeged, Hungary, which is receiving Foundation assistance for the maintenance of its departments of medicine and natural sciences

the investigations during 1932. Both of the above-mentioned projects were initiated in 1929, and present appropriations represent a continuation of former Foundation support.

The National Research Council

Research on Sex Problems

In 1920 the American Social Hygiene Association became interested in the possibility of developing systematic research work on sex problems. The facilities and the personnel of accredited scientific institutions might contribute, it was believed, to furthering fundamental knowledge in this field. Since 1922 the Bureau of Social Hygiene has supported a number of research undertakings selected by a special committee of the National Research Council. Accumulating experience has shown that progress in understanding complex sex phenomena in human beings is likely to be hastened by a knowledge of more elementary physiological and biochemical changes common to and observable in many animals. Considerable success has attended the studies made possible by the grants of the Bureau of Social Hygiene, and many of the recent additions to physiological knowledge of sex have been made as a direct result of these grants. During 1931, at the suggestion of the Bureau of Social Hygiene, responsibility for this phase of

its work, now become largely a research program in the biological sciences, was assumed by The Rockefeller Foundation, and a grant was made by the Foundation to the National Research Council for the work of its Committee for Research in Problems of Sex for the period beginning July 1, 1931, and ending June 30, 1933.

The National Research Council
Committee on Drug Addiction

It is believed that one promising solution of some of the problems of drug addiction lies in substituting for habit-forming drugs other allied substances, which are not habit forming but are equally effective as narcotics and analgesics. By such substitution, the quantities of addiction drugs imported or manufactured for legitimate uses would be greatly reduced and control measures correspondingly facilitated. In 1928 a committee of the National Research Council recommended a systematic and persistent study of the codeine alkaloids. This investigation has up to the present been financed by the Bureau of Social Hygiene. Chemical studies have been entrusted to Dr. L. F. Small at the University of Virginia, whose treatise comprising the present knowledge of alkaloids has been published as a bulletin by the United States Public Health Service. Biological control of newly synthesized

compounds has been entrusted to Dr. C. W. Edmunds at the University of Michigan. An important bulletin of the Public Health Service on the biological action of alkaloids has been prepared by Dr. R. A. Hatcher of Cornell University. Many other articles embodying the work of this committee have been published in scientific journals. The work is carried on in cooperation with the University of Virginia and the University of Michigan, and valuable aid is being given by the United States Public Health Service and the United States Bureau of Narcotics. The Rockefeller Foundation has made an appropriation to the National Research Council for the support of this work, under the Committee on Drug Addiction, during a three-year period, beginning in 1933.

Research Aid Grants

So varying are the conditions under which the support of an able investigator or the fostering of recruitment of younger scientists under an excellent leader may be advisable, that a brief recapitulation of a series of Foundation grants toward projects in the medical sciences in Europe in 1931 would appear to be a list of widely differing undertakings. Common to all the following items, however, is the emphasis upon the value to the present and future of medical science of

the training and the support of the oncoming generation. Eight grants, totaling $140,890, and each for a period of time exceeding a year, may be enumerated: an appropriation to the University of Turin, Italy, for the advancement of research work on problems of growth, carried on in the Institute of Anatomy by Professor Giuseppe Levi and his first assistant, Dr. Oliviero Olivo; a grant to the Queen's University of Belfast, Northern Ireland, for the training of men to become teachers or investigators in the medical sciences; grants to University and Trinity colleges, Dublin, Irish Free State, for the training of future teachers and investigators in the medical sciences; an appropriation to the Medical College of St. Bartholomew's Hospital, London, to enable Dr. Charles Felix Harris to continue his studies in the field of pediatrics, supplementing similar aid given in 1929 and 1930; a grant to Dr. Hugh William Bell Cairns, to permit him to devote his time to neurosurgical work in connection with the London Hospital; a grant to the University of Padua, Italy, for the researches of Professor Tullio Terni, director of the Institute of Histology and Embryology; and an appropriation to the University of Uppsala, Sweden, payable over a three-year period, to provide additional assistants in the Institute of Physical Chemistry, enabling Professor Theodor

Svedberg to carry out a series of researches on the molecular properties of proteins, hormones, and enzymes. Professor Svedberg's laboratory is used by investigators from various medical faculties, who come to utilize in their studies the ultracentrifuge developed in this laboratory.

Annual payments in accordance with the terms of original grants were made to the following institutions or individuals: Columbia University, for research in medical mycology and for studies in nutrition at the School of Tropical Medicine of the University of Porto Rico; Cornell University Medical School, New York City, for Dr. C. R. Stockard's studies in eugenics and heredity; Harvard University, Cambridge, Massachusetts, for research in physiology and physical chemistry under Dr. W. B. Cannon; the Johns Hopkins University Medical School, Baltimore, Maryland, for a study of obstetrical records; McGill University Medical School, Montreal, Canada, for the development of research in surgery; the University of California, Berkeley, California, for a study of the chemical aspects of vitamins and hormones by Dr. H. M. Evans; the University of Pennsylvania, Philadelphia, for a study of living tissues by Dr. E. R. Clark of the Department of Anatomy; the University of Rochester, for diathermy studies by Dr. S. L. Warren, and for the development of a

child guidance clinic by its departments of psychiatry and pediatrics, in cooperation with the Health Bureau and the Board of Education of the city of Rochester; the University of Toronto, Canada, for research in the department of pediatrics; Yale University, for the development of psychiatry in the Institute of Human Relations; the University of Paris, France, for studies in parasitology under Professor Emile Brumpt; and the Carlsberg Foundation, toward the maintenance of the staff of the Research Institute of Experimental Biology, Copenhagen, Denmark. Payments were also made toward general research funds for the medical sciences at Stanford University, California, the University of Rochester, Washington University, St. Louis, Missouri (also available for research in the natural sciences), and Yale University.

Aid to Research Funds

Vanderbilt University

Research in the Medical Sciences

In the Medical School of Vanderbilt University, Nashville, Tennessee, an advisory committee passes upon the research needs of respective departments and advises concerning the amount to be apportioned to any particular department. To provide special apparatus and supplies for investigative work now in progress,

The Rockefeller Foundation has made an appropriation payable on a decreasing scale over an eight-year period. This grant has the status of a general research fund in the medical sciences. It is hoped that with the contributions from the university there will be maintained an adequate amount annually available for research work.

Aid to Centers of Research and Teaching

University College Hospital Medical School, London

Knowledge of the nature of disease has long been recognized as of the greatest importance in efforts to prevent, alleviate, or cure disease. To study a diseased human being or a selected group of patients throughout the course of a disease, with extreme refinement of observation, specially devised tests, and unhurried thoroughness, calls for conditions but rarely realizable in private practice or in the active services of an efficiently managed hospital. Such careful study requires not only special arrangements for hospitalization of patients, but a scientific personnel of unusual training, devotion, and ability. Not merely diagnosis and treatment, but the full natural history of the disease, is to be desired. A few organizations equipped and decided, able and eager to study disease in this way, will afford new opportunities for the advancement of knowledge.

THE ROCKEFELLER FOUNDATION 1913 ✱ THE WELLBEING OF MANKIND THROUGHOUT THE WORLD

Photograph Excised Here

Courtesy of the Near East College Association, Inc.

The new medical sciences building of the American University of Beirut, Syria, toward the building and equipping of which the Foundation contributed.

THE ROCKEFELLER FOUNDATION 1913 ✱ THE WELLBEING OF MANKIND THROUGHOUT THE WORLD

Photograph Excised Here

Physiology laboratory, Chulalongkorn University, Bangkok, Siam. The two groups in the foreground are studying the effect of insulin on hunger contractions. The Rockefeller Foundation has assisted the Government of Siam in the development of the medical and premedical sciences at Chulalongkorn University over a period of years.

Circumstances to favor the development of this approach to clinical problems have been created at University College Hospital Medical School. The British Medical Research Council has given support to the research personnel and the medical school has provided a special post and clinical facilities for the director of clinical research. To this promising combination of interests and resources The Rockefeller Foundation contributed a sum to endow at the medical school a chair of clinical research. Sir Thomas Lewis, who by example and precept has done much for the recognition and appreciation of clinical research, will hold the chair.

The University of Leipzig
Institute of Physiological Chemistry

The Foundation has made an appropriation to the University of Leipzig, Germany, to provide research assistants and aid for laboratory expenses to Professor Karl Thomas in the Institute of Physiological Chemistry at this university, during a seven-year period, beginning in 1931. Formerly the work in physiological chemistry was part of the program of the department of physiology, but in 1916 an independent institute was created with its administration and its teaching body controlled by the university through the director. The position occupied by

Photograph Excised Here

Central building of the Faculty of Medicine at São Paulo, Brazil, erected and equipped with the aid of the Foundation.

Professor Thomas as an investigator and teacher and the quality of the students accepted by him, together with the growing importance of the biochemist to the advancement of medicine, were the chief considerations in this project.

The University of Szeged
Departments of Medicine and Natural Sciences

The University of Szeged in Hungary has received from The Rockefeller Foundation an appropriation to be used for the maintenance of its departments of medicine and natural sciences and for the purchase of research equipment for these departments. The appropriation will be payable on a diminishing scale over a four-year period during which the Hungarian Government expects to provide, on an increasing scale, a sum for maintenance equal to that supplied by the Foundation.

The American University of Beirut
Improvement of Teaching Facilities for the Medical School

To this influential and effective institution established in Beirut, Syria, The Rockefeller Foundation has at various times given considerable aid. The character of the work done, the wide distribution of the graduates, and the service in providing well-trained medical personnel throughout the Near East have dis-

tinguished this medical school. It serves a large number of countries possessing in the aggregate a considerable population but too small individually to support their own medical schools.

The aid of The Rockefeller Foundation at this point is to provide improved teaching facilities in the medical sciences, nursing, and the premedical subjects during the period when the capital for a new hospital is being raised. The sum granted is to be expended over a seven-year period, according to a definite schedule.

Albany Medical College

Organization of Extension Courses in Medicine

For the experiment in university extension teaching in medicine which the Albany Medical College, Albany, New York, is making in cooperation with the New York State Department of Health, The Rockefeller Foundation granted further aid in 1931. This represents the third year of a five-year period of cooperation.

The Free University of Brussels

Maintenance of St. Pierre Hospital

A contribution was made in 1931 to the city of Brussels toward the maintenance of the St. Pierre Hospital as an institute for clinical teaching during a two-year period, ending in 1932. This hospital is used in connection with the medical

school of the Free University of Brussels, to which The Rockefeller Foundation has in the past made extensive grants.

The University of Montreal
Faculty of Medicine

In 1931 the Foundation appropriated $25,000 to the Faculty of Medicine of the University of Montreal, Canada, for the development of laboratories during the academic year 1931–32. This school is laying emphasis on the development of the preclinical sciences and is attempting to institute a system of full-time teachers. Foundation cooperation with the school, along lines similar to the present project, extends back to the year 1920–21.

The China Medical Board, Incorporated
Budget of Peiping Union Medical College, 1932

Peiping Union Medical College, at Peiping, China, is the only medical center for teaching and research to which The Rockefeller Foundation has contributed the entire cost of land, building, equipment, and maintenance. In recent years steps have been taken toward rendering this college a Chinese institution, administered under Chinese auspices, and serving the Chinese people. In 1928 there was established the China Medical Board, Incorporated, with a self-

perpetuating board of trustees, independent of The Rockefeller Foundation. This board received an endowment of $12,000,000, and to it were transferred the land, buildings, and equipment held by the Foundation for the Peiping Union Medical College. Additional sums were pledged to this corporation for a period of five years. The amount appropriated in 1931 for its budget was $304,000.

Miscellaneous Grants

The University of Edinburgh
Royal Infirmary Record System

At the Royal Infirmary, University of Edinburgh, a modern case-record system is being established in order that complete case histories and other data may be made available for use in the study of selected diseases. For this purpose The Rockefeller Foundation has pledged aid over the five-year period, 1931–35. The infirmary is contributing space and facilities, and the College of Surgeons is providing the services of two medical statisticians.

The Henry Phipps Institute, University of Pennsylvania
Test of Stereofluoroscope

A grant has been made to the Henry Phipps Institute for the Study, Treatment, and Prevention of Tuberculosis to defray the cost of testing the potentialities of a stereofluoroscope. If

fluoroscopic examinations could be made to give as satisfactory results as radiographs, chest examinations, valuable in the diagnosis of tuberculosis, pneumonia, heart disease, and other illnesses, would be greatly facilitated and their cost materially diminished. A stereofluoroscope of promising type has been developed at the California Institute of Technology, and Dr. E. L. Opie is now trying this out at the Henry Phipps Institute.

The National Medical Association of China

An appropriation was made to the National Medical Association of China toward the cost of amalgamating the English section of its Journal with the Journal of the China Medical Association. The two periodicals are to be combined in a single monthly publication, the *Chinese Medical Journal*, which will be the only foreign language medical journal in China. The National Medical Association of China and the China Medical Association are to become one organization, the Chinese Medical Association. A Chinese section of the Medical Journal will be published bimonthly.

Nursing Education

Certain undertakings in the field of nursing education received aid during 1931, based on

commitments of the Foundation made through its former Division of Medical Education and subsequently administered as a part of its program in the medical sciences. Funds were provided for supplementing the salaries of visiting teachers and nurse leaders at the School of Midwifery and Nursing, Siriraj Hospital, Chulalongkorn University, Bangkok, Siam; for educational work at the College of Nursing at St. Luke's International Hospital in Tokyo, Japan; for the improvement of teaching facilities at the School for Public Health Nurses at Cluj, Rumania; and toward the maintenance of the School of Public Health and Bedside Nursing, Cracow, Poland. Payments were made to the School for Public Health and Bedside Nurses in Zagreb, Yugoslavia, for the development of teaching facilities in hospitals and dispensaries; to the School of Nursing at Vanderbilt University for educational work; and to Yale University to assist in equipping and maintaining the School of Nursing. Support was continued to the State Central School of Nursing, Budapest, Hungary; the School of Nursing of the University of Debreczen, Hungary; and the School of Nursing of the University of Lyon, France. Aid was given to the Committee on Grading of Nursing Schools in the United States, for continuation of its work.

Fellowships and Visits

In the medical sciences, The Rockefeller Foundation awards fellowships which fall into three classifications: research fellowships, fellowships for training, and special fellowships. Research fellowships are awarded to those who have already shown outstanding ability in research work in the medical sciences and who expect to return to their own countries, on the termination of their fellowships, to continue their work. Fellowships for training are given to promising young workers in the medical sciences who already have a medical degree or the equivalent and who are preparing for teaching or research positions in their own countries. Assurance is required that a full-time position in an institution of recognized standing will be reserved for the candidate. Awards in the nature of special fellowships are occasionally made to mature men of established scientific reputation to enable them to engage in research in the fundamental medical sciences.

In 1931 the Foundation supported and administered directly eighty-nine fellowships in the medical sciences. Thirteen of the eighty-nine fellows came from Siam; seven were from Russia; six each from Australia and Italy; four each from Canada and Czechoslovakia; three each from Austria, Germany, Japan, the Neth-

erlands, Sweden, and Switzerland; two each from Argentina, Brazil, China, England, Hungary, Iceland, India, the Philippines, Porto Rico, Syria, and Yugoslavia; and one each from British East Africa (Kenya Colony), Denmark, Estonia, France, Haiti, Peru, Poland, Scotland, and South Africa.

Sixteen of the fellows studied internal medicine; fifteen physiology; eleven biochemistry; ten surgery and surgical specialties; nine anatomy; eight pathology; seven bacteriology; four each, gynecology and obstetrics, immunology, and parasitology; three each, pharmacology and chemistry; two each, tissue culture, physics, and genetics; and one each, biophysics, industrial hygiene, and biology. Among these, thirteen fellows studied two subjects and one fellow studied three subjects. The studies were carried on in Austria, Belgium, China, Czechoslovakia, England, France, Germany, Italy, the Netherlands, Porto Rico, Scotland, South Africa, Sweden, Switzerland, and the United States.

In addition to the fellowships administered directly, the Foundation has supplied funds to the Medical Research Council of Great Britain, to the Notgemeinschaft der Deutschen Wissenschaft of Germany, and to the Hungarian Scholarship Council, to support British, German, and Hungarian fellows, respectively, for work in

countries other than their own. During 1931 thirteen persons held fellowships under the British Medical Research Council for work in Austria, Canada, Germany, and the United States. Two each studied surgery and neurology and psychiatry; and one each, immunology, pharmacology, experimental embryology, endocrinology, medicine, pediatrics, malariology, metabolic diseases, and diseases of the blood. Under the Notgemeinschaft der Deutschen Wissenschaft, fourteen persons held fellowships for study in Canada, Egypt, England, France, the Netherlands, Switzerland, and the United States; three of these studied pathology; two each, surgery, physiology, and pharmacology; and one each, dermatology, neurology, metabolic diseases, medical statistics, and immunology. Under the Hungarian Scholarship Council, five fellowships were held for study in Canada and the United States, one fellowship each was held for gynecology, surgery, pathology, bacteriology, and tissue culture.

A grant was made to the National Research Council of the United States for the support of fellowships in medicine awarded to applicants of American or Canadian citizenship. This grant was a continuation of similar grants made during the past decade. Thirty-nine fellowships were supported during 1931. Most of these were for

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Students' residence, School of Midwifery and Nursing, Siriraj Hospital, Chulalongkorn University.

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A class of the First Midwifery School, Peiping, China. The Foundation is contributing toward the support of this school over a five-year period which began in 1929.

work in the United States; but eighteen fellows worked abroad, in Africa, Austria, Canada, Egypt, England, France, Germany, Italy, and the Netherlands.

Funds were granted also to the National Committee for Mental Hygiene, of the United States, for the support of five fellows, and to the Peiping Union Medical College for 131 fellowships for study in that college and twenty-two fellowships for members of the staff of the college for study outside of China.

Foundation fellowships in nursing were held by thirty-five fellows from fourteen countries: seven from Siam; six from Hungary; five from the United States; three each from China and England; two each from Japan and the Philippines; and one each from Bulgaria, Canada, France, Poland, Rumania, Scotland, and Syria.

Thus The Rockefeller Foundation, during 1931, provided a grand total of 353 fellowships in the medical sciences, through which young men and women in many countries were aided in preparing for careers of research in the medical field.

As guests of the Foundation, twenty-seven nurse leaders visited nursing centers, in many cases in countries other than their own. Twenty-two of these were from the United States, three from France, and one each from Hungary and Yugoslavia.

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At the annual mothers' day meeting at St. Luke's International Hospital, Tokyo, Japan, 1931, these mothers were awarded prizes for the greatest progress in the care of their infants. The meeting was attended by over a thousand mothers who had been delivered at the hospital and had been taking their infants to the well-babies' clinic.

Publications

During 1931 there was published Series 19 of "Methods and Problems of Medical Education," a volume dealing in detail with the various departments and services concerned with the teaching of medicine at the University of Chicago. The volume contains 220 pages and is illustrated with plans and photographs. Like the other volumes constituting this series, it has been distributed gratis to medical schools in many parts of the world.

THE MEDICAL SCIENCES STAFF DURING 1931

DIRECTOR
Alan Gregg, M.D.

ASSOCIATE DIRECTORS
William S. Carter, M.D.
Robert A. Lambert, M.D.

ASSISTANT DIRECTOR
Daniel P. O'Brien, M.D.

THE NATURAL SCIENCES

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THE NATURAL SCIENCES

In the field of the natural sciences The Rockefeller Foundation, during 1931, aided projects covering a wide variety of subjects. For the most part assistance took the form of support of centers of research and of definite research programs; but funds were also provided for general research in the natural sciences, for fellowships, and for publication work. New projects, for which appropriations were made in 1931, fall within the domains of oceanography, marine biology, general biology, geophysics, astrophysics, astronomy, chemistry, and physics. Institutions with which the Foundation cooperated are located in Western Samoa, Bermuda, the United Kingdom, Germany, Hungary, Poland, Switzerland, Norway, Sweden, and the United States.

Developments in Connection with Former Projects

Paleontological Research in Asia

An important event occurring during 1931 in connection with a project aided by The Rockefeller Foundation for several years was the publication by Dr. Davidson Black of an official description, with requisite scientific data and

plates, of the widely heralded prehistoric skull discovered in China in 1929. Dr. Black is professor of anatomy at Peiping Union Medical College, to which the Foundation has made appropriations since 1926 for human paleontological research in China. The work of excavation was carried out in cooperation with the Geological Survey of China, and the discovery of the skull was made by Mr. W. C. Pei, of this survey. The findings consist of an uncrushed and almost complete brain case belonging to a prehistoric man, designated by Dr. Black as *Sinanthropus pekinensis*. Comparison of this skull with other remains of prehistoric man, especially *Pithecanthropus* and *Eoanthropus*, is going forward. During 1931 the Foundation continued payments in support of this work. According to one authority in the field of paleontology, "The skull found in 1929 not only established on a firm foundation our knowledge of primitive man, to which it gave coherence and in which it inspired confidence, but in addition it revealed a type which was so primitive as to enable us to visualize the characters of the common ancestor of all three genera."

The Woods Hole Oceanographic Institution

In 1931 the Foundation made payments on an appropriation of two and one half million dol-

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Woods Hole Oceanographic Institution and the research ship *Atlantis*, which is being used for the study of the physics and chemistry of the sea.

lars granted in 1930 for the development of the Woods Hole Oceanographic Institution. A small additional appropriation for scientific equipment was also made during the year. The new laboratory building of this institution, which is adjacent to two world famous centers of marine life, the Marine Biological Laboratory and the Laboratory of the United States Bureau of Fisheries, was opened in July, 1931.

The institution has built and equipped a special ship for oceanographic studies, the *Atlantis*, which accommodates, in addition to the usual officers and men, a staff of five scientists and several scientific students. It is provided with a deck laboratory for receiving fish and other specimens direct from the net, and a laboratory below deck for chemical and physical work. The first trip across the ocean was devoted to four main projects: a study of the vertical distribution of plankton; determination of the temperature and salinity of the contact zones between warm and cold currents; a survey of the oxygen content of Atlantic Ocean water from the surface down to the bottom; and the towing of large nets to obtain deep-sea fish, and also in the hope of rounding out the incomplete history of eel migrations.

During the year there was published a book by Dr. Henry B. Bigelow, director of the Oceano-

Photograph Excised Here

Alaska Agricultural College and School of Mines, Fairbanks

graphic Institution and curator of oceanography of Harvard University, outlining the entire subject of oceanography and giving details on tasks performed and tasks still to be done.

Harvard University
The Pickering Memorial

In recognition of the work of the late Edward C. Pickering, who died in 1919, there was established in 1931 at Harvard University the Edward C. Pickering Memorial, a hundred thousand dollar foundation for promoting the study of the variable stars. The memorial is financed from funds advanced by Harvard University, The Rockefeller Foundation, and the American Association of Variable Star Observers. The last-named organization consists of more than three hundred amateur astronomers throughout the country who collaborate with the Harvard Astronomical Observatory. It grew from a mere handful of enthusiastic amateur astronomers, guided by Professor Pickering. The work of these amateurs, especially in the observation of the reddish variable stars, highly luminous, unstable, and unexplained, has developed to such an extent that professional astronomers have come to leave the responsibility for this subject largely in their hands. The new funds will enable this association to enter even broader and more

valuable fields of astronomical study. The funds will also be used for the publication of charts and the upkeep of equipment. Under the guidance of Dr. Harlow Shapley, who succeeded Professor Pickering as director of the Harvard Astronomical Observatory, the association is now engaged on the important problem of the constancy of the earth's rotation. Through observing eclipses of stars by the moon, corrections to the moon's motion are obtained; these reflect on the fundamental measure of time.

Studies of the Aurora

Payments were continued during 1931 in connection with the development of a station for the study of the aurora at the Alaska Agricultural College and School of Mines in Fairbanks. The establishment of this station is part of a concerted effort to gather facts which will lead to a better understanding of the earth and its atmosphere. Such a program calls especially for systematic observations of the fluctuations in the earth's magnetic and electrical fields. A more thorough knowledge of upper air conditions near the poles will throw light on magnetic storms, which are an important factor in weather forecasting, telegraph, telephone, and radio communications, and in aerial and other forms of transportation.

The International Meteorological Committee, made up of the directors of national geophysical institutions of about thirty-five countries, and functioning since 1872, is now organizing a Second International Polar Year similar in character to the First International Polar Year (1882–83), in which twelve countries participated in a program of meteorological and magnetic observations and scientific expeditions. The Norwegian Institute of Cosmical Physics, recently established at Tromsö, Norway, for the study of auroral phenomena, and toward the construction of which the International Education Board contributed, will play a prominent part in the work of the Second International Polar Year. The Foundation plans to participate by providing funds toward operating expenses and for special equipment.

Knowledge of the aurora has greatly advanced within the past twenty years but many questions remain unsettled. The earth's atmosphere is bombarded by particles coming from the sun, probably particles of negative or positive electricity, or both. This bombardment is concentrated in zones encircling the polar region and probably sets up, in the highly rarefied gases of the upper atmosphere, glow-like disturbances similar to those seen in vacuum tubes. These discharges are the visible aurora. Other phe-

nomena, such as the sounds sometimes alleged to accompany the auroral display, are being investigated.

Aid to Centers of Research

The University of Oslo

Institute of Theoretical Astrophysics

To the University of Oslo, a recognized center of cosmical physics and theoretical hydrodynamics, The Rockefeller Foundation has appropriated funds for the construction of a building and the purchase of scientific equipment for an institute of astrophysics. The university is furnishing a suitable site for the building and guarantees its maintenance.

Recently the Norwegian State provided over a million dollars for the erection of a building to house institutes of chemistry, physics, and mathematics. The new project will add astrophysics to this well-rounded scheme of work in the natural sciences.

Harvard University

Geophysical Research

The Foundation has made an appropriation to Harvard University in partial support, for five years, of a program of geophysical research. There is projected at Harvard a geophysical institute which will represent permanent coopera-

tion of the departments of geology, physics, chemistry, astronomy, and mathematics. Work has already been started in the field of seismology, dealing with investigations on the constitution of the earth's crust. Other subjects which will fall within the scope of the geophysical institute are magnetism, electricity, gravity, radioactivity, genesis of rocks and minerals, volcanology, glaciology, and oceanography. Some of the first researches planned deal with high pressure and high temperature investigations of earth materials, for which the university is especially well equipped.

The Apia Observatory

A grant was made to the Department of Scientific and Industrial Research of the Dominion of New Zealand for the work of the Apia Observatory during a two-year period, beginning in 1931. This observatory, which is located in Western Samoa, was established in 1902 and passed into the hands of the New Zealand Government in 1921. It has received support from the Admiralty in London and from the Carnegie Institution of Washington. Records, continuous since 1902, cover important data in meteorology, astronomy, oceanography, and geophysics. The latter subject is especially important. The International Geodetic and Geophysical Union,

assembled at Stockholm in 1930, emphasized the need of geophysical observatories in the Southern Hemisphere. Of the total of seventy geophysical stations in the world, only eleven are in the Southern Hemisphere. The observatory at Apia is one of the best known of these stations.

The University of Warsaw
Institute of Physics

An appropriation was made to the University of Warsaw for the purchase of research apparatus for its newly enlarged Institute of Physics. The university, is one of the largest and most important schools in Poland, having an attendance of 10,000. Its Institute of Physics has about 600 undergraduate students and 30 graduate students doing advanced work under a considerable staff of assistants, headed by Professor S. Pienkowski. The Polish Government recently provided funds for the addition of a wing to the physics laboratory. This was completed and occupied during 1931. The government is providing for the annual maintenance of the laboratory as well as for the salaries of personnel.

The University of Szeged
Departments of Medical and Natural Sciences

To the University of Szeged the Foundation has made two appropriations, one for the

purchase of scientific equipment for research in specified departments of the natural sciences and medicine, and another to provide for the maintenance of research in these departments over a period of four years, beginning in 1931. Szeged is an important center for medicine and science in Hungary. There are twelve chairs in the faculty of science. Since the opening of the university in 1921, $3,675,000 has been invested in land and buildings for this university by the city of Szeged and the Hungarian State.

The Hungarian Biological Research Institute

At Tihany, on Lake Balaton, the Hungarian State erected, after the World War, what amounts to an international biological research station. Lake Balaton is one of the largest fresh-water lakes in Europe. Its shallowness and its teeming fresh-water life render it especially suited for experimental work. The institute has well-equipped laboratories, a large library, and accommodations for about fifty visitors. Scientific work is carried on by Hungarian and visiting biologists. The Rockefeller Foundation has contributed funds for the building of an experimental greenhouse and also toward the maintenance of the institution. The support is to be distributed over a period of five years, beginning in 1931.

THE ROCKEFELLER FOUNDATION 1913
THE WELLBEING OF MANKIND THROUGHOUT THE WORLD

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Institute of Physics of the University of Warsaw, Poland.

THE ROCKEFELLER FOUNDATION 1913
THE WELLBEING OF MANKIND THROUGHOUT THE WORLD

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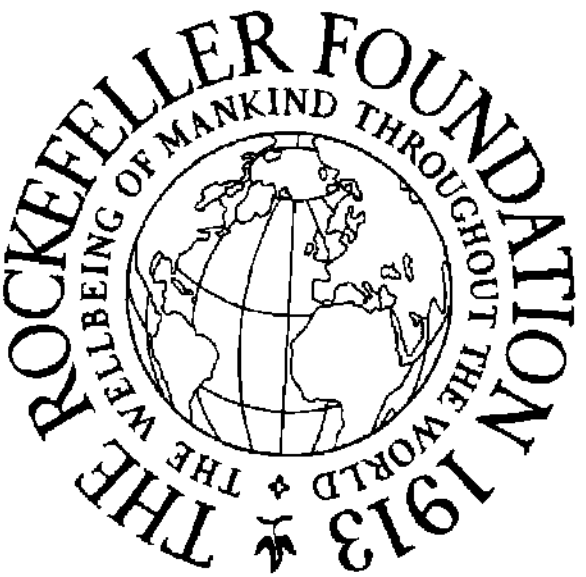
A corner of the laboratory of the Long Island Biological Association at Cold Spring Harbor, showing a high frequency Wheatstone bridge, which is used in measuring the electric capacity and resistance of biological material.

The University of Stockholm
Greenhouse for the Institute of Biochemistry

In 1927 the International Education Board made an appropriation toward the erection and endowment of an Institute of Biochemistry at the University of Stockholm. The building was completed in 1930, and the institute has been in operation since that time. During the past year The Rockefeller Foundation made a grant to the university to enable it to provide a greenhouse for the departments of biochemistry and plant physiology. The site chosen for the greenhouse is adjacent to the new institute. It forms part of a park belonging to the city, and has been made available to the university by the city authorities. The university will build a well-equipped greenhouse and also remodel a small dwelling-house at present on the site, to provide accommodations for laboratory workers. Maintenance for the greenhouse and the laboratory is guaranteed by the university.

The University of Geneva
Station of Experimental Zoology

The Foundation is providing funds for the construction and general equipment of a new building for the Station of Experimental Zoology at the University of Geneva. The university is supported by the Canton of Geneva. Its De-



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Hungarian Biological Research Institute at Tihany, to which the Foundation has contributed funds for the building of an experimental greenhouse and for maintenance.

partment of Zoology and Comparative Anatomy has since 1918 been under the charge of Professor Emile Guyenot, who has associated with him several assistants and from twelve to fifteen research workers. In 1921 the Canton of Geneva rented a small villa at a short distance from the university and established there a Station of Experimental Zoology staffed by personnel transferred from the Department of Zoology and Comparative Anatomy. The garden of the villa was well adapted for zoological experimental work and has been fully utilized by the construction of terraria, aquaria, animal sheds, and other equipment. It is now proposed to purchase this site, erect a new building, and expand the work of the station. The university will purchase the land and provide for the increased cost of maintaining the station.

The University of London
Departments of Zoology and Comparative Anatomy, University College

In recent years important discoveries in zoology have resulted from the correlation of genetics with cytology. The two main explanations of the mechanism which has brought evolution about, those of Darwin and Lamarck, postulate a relationship between every animal and its surroundings, which results in what is called adapta-

tion. This matter of adaptation can be investigated only by a combination of observation and experiment, which will ultimately form the technique of ecology. An important task of zoology lies in the study of those wider relationships of animals with their surroundings which involve all their functional activities. Additional studies must be made of the processes which go on in an individual animal, and of the factors of the non-living environment which are likely to influence the structure, metabolism, and behavior of an animal. It is only when these branches of zoology have made further progress that it will become possible to achieve a rational ecology. Toward this goal the departments of zoology and biochemistry of University College of the University of London are working.

The opportunity has arisen for moving the Department of Zoology of University College into a building in immediate contact with the departments of physiology and anatomy, thus bringing into the closest possible association all those departments which are interested in the problems of living matter as it exists in the bodies of animals. The development of an enlarged department of zoology and comparative anatomy is included in the plan. The program involves the purchase, remodeling, and equipment of a building. The cost of this and of part of the

maintenance of the enlarged department will be borne by the university; the college has pledged a certain amount for annual maintenance; and The Rockefeller Foundation has made an appropriation toward the endowment of the department.

The Long Island Biological Association
Emergency Grant for Cold Spring Harbor Laboratory

In 1890 a biological laboratory was founded at Cold Spring Harbor, Long Island, as a department of the Brooklyn Institute of Arts and Sciences. In 1923 this laboratory was transferred to the Long Island Biological Association. Natural conditions at Cold Spring Harbor provide opportunities for obtaining an unusually extensive series of animals and plants. The laboratory is now second in size to the biological laboratory at Woods Hole. It has a permanent staff and offers facilities for summer work and visitors. Its activities demonstrate in an unusually effective manner the value of close cooperation between all branches of biological research. In 1931 the Foundation made an emergency grant to this institution.

The Marine Biological Laboratory, Plymouth, England

The Foundation has made an appropriation to the Marine Biological Association of the

United Kingdom for the enlargement of the Marine Biological Laboratory at Plymouth and the purchase of certain important research apparatus for this laboratory. The laboratory was founded in 1888 to promote researches in zoological and botanical science and to increase knowledge of the food, life conditions, and habits of fishes and mollusks. In 1925 the International Education Board made a small grant for the extension of the laboratory building. Work has grown considerably during the past five years, and an increasing number of visiting scientists are accommodated. The Foundation's contribution will help to provide adequate library facilities and increased laboratory space.

The Bermuda Biological Station Emergency Grant

In 1929 the Foundation contributed funds to enable the Government of Bermuda to provide larger quarters and modern equipment for the Bermuda Biological Station for Research. A former hotel building has been successfully transformed into a laboratory of adequate size, which, according to present plans, will be formally opened early in 1932. In 1931 the Foundation made a small additional grant toward the station's operating expenses. This is payable over a two-year period, beginning in 1932.

Grants in Aid of Research Projects

The University of Munich

Institute of Physics

The Institute of Physics of the University of Munich has received from the Foundation a small appropriation for the use of the Department of Theoretical Physics, in which Professor A. Sommerfeld, a Nobel Prize winner, is now studying electron movements and related problems.

The University of Stockholm

Experimental Zoology

To the University of Stockholm, the Foundation has made an appropriation to increase facilities for investigations in zoophysiology under the direction of Professor John Runnström. The grant will be used for alterations and general equipment, for scientific apparatus, and for current expenses of research over a period of five years. The university has received donations from other sources in support of this work and is ready to provide additional maintenance.

The Hanover Polytechnic School

The Foundation has provided funds for the purchase of scientific equipment for the researches of Professor Wilhelm Biltz, who occupies the chair of inorganic chemistry at the

Hanover Polytechnic School. The work of Professor Biltz deals with fundamental questions on the border line between chemistry and physics; the aid provided will permit the expansion of his investigations. The State Government is giving its support to this project, through an increased budget and the provision of additional personnel.

Research in Genetics

Aid has been extended by the Foundation for research in genetics, to be carried out in the Philippines by Richard Woltereck, professor of zoology at the University of Leipzig, and an assistant, Willis Tressler, instructor at the University of Buffalo. The investigation is concerned with the differentiation of races of fresh-water animals, particularly fish. It involves a study of conditions of life in postglacial lakes, with particular attention to variations of species and races living in lakes on isolated islands.

Aid to Research Funds

The Massachusetts Institute of Technology

With the aim of intensifying its research in pure science and demonstrating the value of research on fundamental scientific problems as a means of developing a more progressive and

effective attitude in engineering and industry, the Massachusetts Institute of Technology is erecting a new laboratory for research in physics and chemistry, and is making substantial increases in the budgets of its natural science departments. The Rockefeller Foundation is assisting in this project by a contribution to be used over a six-year period, beginning in 1931, for a general research fund for physics, chemistry, geology, and biology. This fund will afford the institute increased opportunity for the selection of promising and talented young workers in the natural sciences.

The Iowa State College of Agriculture and Mechanic Arts

The natural science departments of the Iowa State College of Agriculture and Mechanic Arts conduct research in the sciences fundamental to agriculture. To stimulate productive studies of this type, the college is establishing a special research fund administered by a research council of the faculty. The Foundation has made an appropriation payable over a period of five years, beginning in 1931, to assist the college in building up this fund.

Aid to Scientific Publications

In the case of many types of scientific research, the scientific journal is the only available medium

for the publication of findings. This is especially true of experimental projects in the fundamental sciences, such as mathematics, biology, chemistry, and physics, the results of which can be summed up in short articles and are of interest chiefly to other scientists working in the same and allied fields. There are in existence today a number of scientific periodicals, but their audiences are necessarily limited; many of them therefore find it difficult to meet the financial obligations incident to publication.

With a view to solving the problem of financial aid to such periodicals, the General Education Board in 1925 requested the National Academy of Sciences to appoint a committee to study the situation. In the same year this board made to the academy an appropriation of $10,000 annually, for a three-year period, to be distributed to scientific organizations to enable them to meet the expenses of publishing the results of scientific research. A special committee, called the Committee on Funds in Aid of Research, was appointed by the National Academy of Sciences. It proceeded to make a three-year general study of the existing system of scientific publication. The following conclusions were reached: Although publication of the results of scientific research should properly be regarded as an essential part of the research itself and should, as a

general principle, be financed, as far as it is possible, by applied science, and although the principle of endowing particular scientific journals is unsound, there exists nevertheless a need for outside financial aid for certain journals to enable them to fill inevitable gaps between income and expenses. It is desirable to strengthen the best existing journals rather than to encourage the initiation of new ones. There also exists a need for financial assistance for the publication of certain books and monographs.

The committee therefore recommended the continuation of aid to established journals to enable them to survive critical financial situations or to publish adequately and speedily accumulations of worthy manuscripts. It also advised the provision of special aid for the publication or adequate illustration of monographs. It recommended, as the most practical way of meeting the situation, that the National Academy of Sciences proceed to raise a permanent capital sum to be known as the Fund to Aid Scientific Publications.

Upon receipt of this report, the General Education Board made a second appropriation of $25,000 annually for a three-year period to the National Academy of Sciences, and requested that, before proceeding to raise the capital sum recommended, the academy ask the committee to

make another three-year study of the status and needs of abstracting journals. In December, 1930, the committee submitted a report on the situation of abstracting journals, which has not, as yet, been acted upon.

The General Education Board's second grant expired in June, 1931, and aid to the scientific journals is now being continued by The Rockefeller Foundation, which, at its meeting of April 15, 1931, made a grant to the National Academy of Sciences for the work of its Committee in Aid of Research Publications. This sum is to be distributed on a decreasing scale over a period of three years.

During 1931 the Foundation continued its support to the Union of American Biological Societies for the publication of *Biological Abstracts*, an account of which was given in the report of The Rockefeller Foundation for the year 1930.

Fellowships and Travel Grants

Continuing its fellowship program in the natural sciences, The Rockefeller Foundation during 1931 provided funds enabling 347 young men and women to continue advanced study in their specialties. The number of fellowships administered directly by the Foundation during the year was 152. With the exception of two

Australians and forty Chinese, all these men were Europeans. The country of origin and the place of study of these fellows are given in a table on page 224. A further tabulation showing the distribution of the fellows according to the field of study is presented below.

FELLOWSHIPS IN THE NATURAL SCIENCES, ADMINISTERED BY THE ROCKEFELLER FOUNDATION DURING 1931, ACCORDING TO FIELD OF STUDY

Country of Origin	*Physical Sciences*	*Biological Sciences*	*Totals*
Australia	..	2	2
Austria	3	..	3
Bulgaria	1	..	1
China	22	18	40
Czechoslovakia	2	..	2
Denmark	3	1	4
England	9	1	10
Estonia	1	..	1
Finland	1	1	2
France	7	2	9
Germany	26	5	31
Greece	1	..	1
Hungary	3	..	3
Irish Free State	1	..	1
Italy	2	1	3
Latvia	1	..	1
Netherlands	3	1	4
Norway	1	2	3
Poland	4	2	6
Rumania	4	2	6
Russia	5	1	6
Scotland	2	1	3
Sweden	3	2	5
Switzerland	2	1	3
Wales	..	1	1
Yugoslavia	..	1	1
Totals	107	45	152

For a number of years the Foundation has given support to the fellowship program of the National Research Council, which provides for training in research in the physical and biological sciences for American students working in this country or abroad. The total number of fellows in the natural sciences supported by the National Research Council in 1931 was 195, of

Fellowships in the Natural Sciences Administered by The Rockefeller Foundation During 1931

Place of Study

Country of Origin	*Belgium*	*Canada*	*China*	*Denmark*	*England*	*France*	*Germany*	*Hungary*	*Italy*	*Netherlands*	*Scotland*	*Sweden*	*Switzerland*	*United States*	*Several Countries*	*Totals*
Australia	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	2
Austria	..	..	..	1	..	..	..	..	..	..	..	1	..	1	..	3
Bulgaria	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1
China	..	..	22	..	..	..	..	..	..	..	..	..	..	18	..	40
Czechoslovakia	..	..	..	..	..	..	1	..	..	..	..	..	..	1	..	2
Denmark	..	..	..	..	..	..	2	..	..	..	..	..	..	2	..	4
England	..	..	..	..	..	..	5 (1*)	..	1	..	..	..	1*	3	..	10
Estonia	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1
Finland	..	..	..	..	..	..	1	..	..	..	..	..	..	1	..	2
France	..	..	..	1	..	..	3	1†	1	..	..	..	1†	2	..	9
Germany	..	1‡	..	3 (1‡)	5 (1§)	1§	..	..	3 (1*)	1	2	3	1	10 (1¶)	1	31
Greece	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1
Hungary	..	..	..	..	..	..	..	..	..	..	..	..	1	2	..	5
Irish Free State	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1
Italy	..	..	..	..	..	..	2	..	..	..	..	..	..	1	..	3
Latvia	1	..	..	..	1	..	..	..	..	..	..	..	..	1	..	1
Netherlands	1	..	..	..	1	..	..	..	..	..	..	..	..	2	..	4
Norway	..	..	..	..	1	..	..	..	..	..	..	..	..	2	..	3
Poland	1	..	..	..	..	..	2	..	..	..	..	..	..	3	..	6
Rumania	..	..	..	..	2	..	..	..	1	..	..	..	..	3	..	6
Russia	..	..	..	..	1	..	2	..	..	..	..	..	1	2	..	6
Scotland	..	..	..	..	..	..	1	..	..	..	..	..	..	2	..	3
Sweden	..	1‡	..	..	..	..	..	..	1	..	..	..	1	2	..	5
Switzerland	..	..	..	..	1	..	..	..	..	..	..	..	..	2	..	3
Wales	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1
Yugoslavia	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1
Totals	2	2‡	22	5(1‡)	13 (1§)	1§	23 (1*)	1†	7 (1*)	1	2	4	6 (1* & 1†)	62 (1¶)	1	152

* Studied also in Denmark.
† Studied also in Germany.
‡ Studied also in the United States.
§ Studied also in Italy.
¶ Studied also in England.

whom 152 studied in American institutions and 43 in foreign countries.

During the year the Foundation made a grant to Professor Hans Spemann, zoophysiologist at the University of Freiburg im Breisgau, Germany, for travel in the United States, and a grant to James W. McBain, professor of chemistry at Stanford University, to enable him to go to Uppsala, Sweden, to carry out special investigations in the laboratory of Professor Theodor Svedberg.

THE NATURAL SCIENCES STAFF DURING 1931

DIRECTOR
Herman A. Spoehr *

ASSOCIATE DIRECTOR
Lauder W. Jones

IN CHARGE OF FELLOWSHIP PROGRAM IN EUROPE
W. E. Tisdale

ASSISTANT IN FELLOWSHIP PROGRAM IN EUROPE
Frank Blair Hanson

ADVISER IN THE FAR EAST
N. Gist Gee

* Resigned August 31, 1931.

THE SOCIAL SCIENCES

CONTENTS

THE SOCIAL SCIENCES

During 1931 a program to further the acquisition of new knowledge in the social sciences was actively supported by The Rockefeller Foundation. Appropriations for the year for work in the United States and abroad totaled $5,805,275. Nearly three-fifths of all the appropriations were for the promotion of general research and advanced training in universities or in special research organizations. In addition to these more general undertakings, specific programs were continued in economic stabilization, in international relations, in social technology, and in community organization and planning. As in former years, emphasis was on the direct promotion of research, though much attention was given to the training of research personnel through the granting of fellowships for advanced work in the social sciences.

Support of Research and Advanced Training at Institutional Centers

The Foundation regards the development of institutional centers of research and training as the most important single element in its program in the social sciences. A number of universities

have received aid in the past. During the year 1931 the following appropriations were made for institutional research programs:

University of Chicago	$875,000
Brookings Institution	262,500
London School of Economics and Political Science	710,000
University of Stockholm	130,000
University of Oslo. Institute of Economics	50,000
American University of Beirut	30,000
Nankai University. Institute of Economics	75,000
Fisk University	10,000
Rumanian Institute of the Social Sciences	22,500
Total	$2,165,000

Universities outside the United States received almost one-half of the total amount appropriated under the category of institutional centers.

The University of Chicago

In 1931 the Foundation assisted the development of the program in the social sciences at the University of Chicago with three appropriations. The Laura Spelman Rockefeller Memorial early recognized the importance of this university as a research center and sought to develop the possibilities afforded by unusual personnel, an exceptionally strong research tradition, and the vast resources of the local community. In its recent appropriations the Foundation is continuing to support the program of local community research, to provide additional personnel for research in the Division of the Social Sciences, and to endow certain permanent additions to this faculty.

Under the new administrative and educational plan at the University of Chicago there are four main divisions of study, viz., the physical sciences, the biological sciences, the social sciences, and the humanities. The Division of the Social Sciences includes the departments of anthropology, economics, education, geography, history, political science, and sociology, and appears to provide a new and advantageous form of organization for the effective promotion of specialized training and research in the social sciences. The new additions to faculty, for which provision is now made, will include especially men working in border-line fields between two or more disciplines.

The Brookings Institution

The Brookings Institution was created in 1927 through the amalgamation of three existing organizations, namely, the Institute of Government Research, the Institute of Economics, and the Robert Brookings Graduate School of Economics and Government. In May, 1931, a new building, a gift of Mrs. Brookings, was opened in Washington, D. C., as the permanent headquarters of the institution, providing unusual facilities for research.

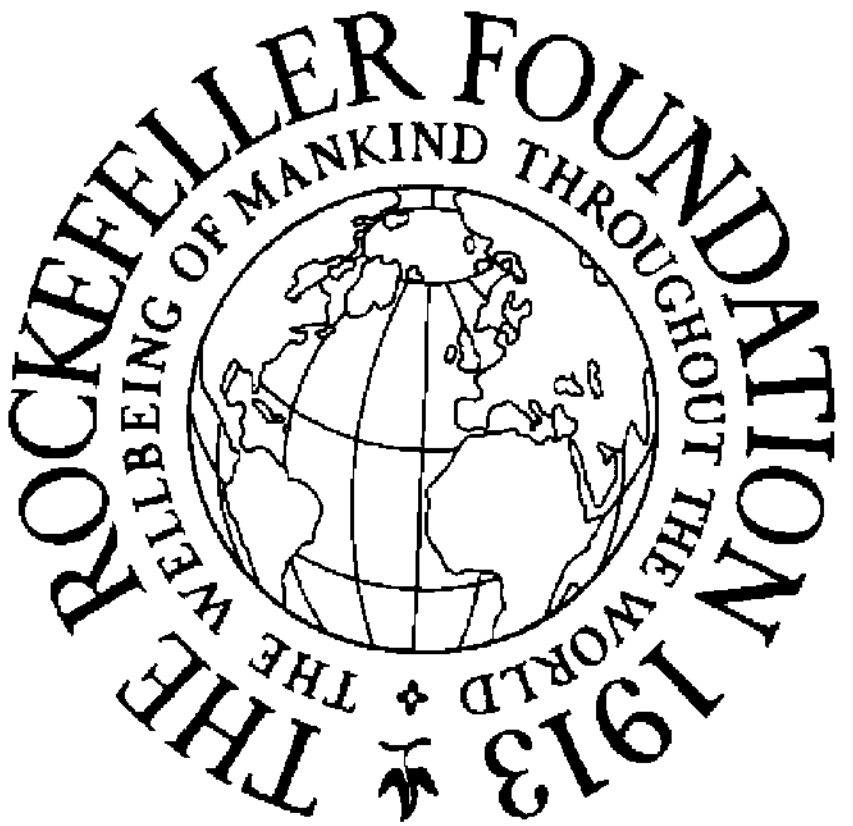
The primary interest of the institution is to effect a closer alliance between social theory and

political practice; the method used is research. At present only two units are in operation, the Institute of Economics and the Institute of Government Research; but plans have been made to add other units, and, eventually, the scope of activities will include research in the whole range of the social sciences.

Numerous studies have been published by the forerunners of the present organization and, since 1927, by the institution itself. The Laura Spelman Rockefeller Memorial contributed to the research program during a three-year period, beginning in 1929, and the present appropriation of The Rockefeller Foundation continues this support for three and one-half years.

The London School of Economics and Political Science

Four grants were made by The Rockefeller Foundation in 1931 for the further development of the London School of Economics and Political Science. The school is a part of the University of London and occupies a position of outstanding importance among European centers for research and advanced training in the social sciences. The Laura Spelman Rockefeller Memorial made a number of grants toward the general expansion of the school between the years 1924 and 1928. The recent appropriations of The Rockefeller Foundation will assist in strengthening its



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The Brookings Institution, Washington, D. C.

faculty, in improving facilities for research and graduate instruction, in rebuilding and equipping the library, and in acquiring land necessary to the school's future development.

The University of Stockholm

Aid for the development of the social sciences at the University of Stockholm was initiated by the Memorial in 1926. Two Rockefeller Foundation grants were made in 1931 for the continuation and extension of the earlier support. One grant is to provide a building for the social science faculty of the university and the Stockholm School for Social Work, hitherto scattered through several buildings. The city of Stockholm is providing the site, in the center of the university quarter, and the Swedish Government has undertaken to endow the building. The second Foundation appropriation will be utilized in the development of a general research program in the social sciences over a five-year period. Cooperative studies by the university social science departments and the Stockholm School for Social Work are planned for the future.

The University of Oslo
Institute of Economics

Considerable attention is being given in Norway to the study of contemporary social

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Anthropoid Experiment Station of Yale University, Orange Park, Florida, to which the Foundation is contributing.

problems. The University of Oslo, in order to centralize its research work in economics, has recently established an Institute of Economics. The program, as outlined, combines in an interesting and unusual way the inductive and deductive methods in economic research. The active cooperation of a number of business organizations has been secured, and, for the first time in Norway, leaders of the business world and university professors are being brought together in a common examination of economic problems. The institute will utilize the university's advanced students in economics in the conduct of its researches and will thus provide valuable training in that branch of the social sciences. Support toward this program has been extended by the Foundation for a five-year period.

The American University of Beirut

The American University of Beirut is the most important center in the Near East for research in the social sciences. A research program of considerable promise and facilities for instruction in the social sciences have been developed since 1926, when the Laura Spelman Rockefeller Memorial made a grant which permitted expansion over a five-year period. To aid in maintaining both the research program and the instruction now offered in the social

sciences, The Rockefeller Foundation has made an additional appropriation.

Nankai University
Institute of Economics

Nankai University at Tientsin, China, has recently established an Institute of Economics, uniting the work of its Department of Economics and the Committee on Social and Economic Research. The new institute gives promise of becoming an important center for the coordination of teaching and research in economics, with special reference to Chinese conditions. It will study contemporary economic problems in the immediate locality and environs of Tientsin and Peiping, and will compile text-books for the special use of Chinese students. The Foundation grant is toward the institute's general budget over a five-year period.

Fisk University

A varied program of research in the social sciences is under way at Fisk University. The Laura Spelman Rockefeller Memorial made liberal grants for the development of the social sciences at this outstanding negro institution for advanced training and research. In 1930 the Foundation provided for an extension of this support for one year. The appropriation made in 1931 provides a further extension.

The Rumanian Institute of Social Science

The Rumanian Institute of Social Science at Bucharest has been granted support over a three-year period for general administration and research. This assistance will enable the institute to expand and strengthen its previous research program, begun in 1921. The institute is an independent organization, supported by voluntary gifts and a state subvention. It is under the directorship of Professor Demetre Gusti of the University of Bucharest.

Economic Stabilization

An interest in the specific field of economic stabilization is represented in several Foundation grants of 1931. Attention to the subject of unemployment, at a time when it forcibly presents itself as a world problem, is, naturally, in evidence. The grants made during 1931 within this field were:

University of Minnesota	$75,000
Industrial Relations Counselors, Inc.	46,725
Family Food Production Demonstration	25,000
Dutch Economic Institute	25,000
Institute for International Economics and Maritime Trade, Kiel	30,000
Total	$201,725

The University of Minnesota

In the spring of 1930 plans for a comprehensive study of unemployment in the cities of St. Paul,

Minneapolis, and Duluth were drawn up by the Tri-City Employment Stabilization Committee in cooperation with the University of Minnesota. The committee proposed three broad types of inquiry: (a) a study of the economic and social aspects of unemployment; (b) a study of individual diagnosis and reeducation; and (c) the establishment of employment bureaus and exchanges under the guidance and supervision of local and state government agencies. The research planned in connection with the project is being carried on by the University of Minnesota, and a special Employment Stabilization Research Institute has been set up for the purpose. The Foundation's appropriation was made for that part of the program dealing with the economic and social aspects of unemployment. The grant was for a one-year period.

Industrial Relations Counselors, Incorporated

Two grants were made to the Industrial Relations Counselors, Incorporated, one for the completion and publication of a series of European unemployment insurance studies and a study of pension plans; the other for a study of the administrative procedures of employment exchanges. The organization is non-profit-making, is engaged mainly in consultation and surveys of industrial relations, and is particularly

well equipped to conduct these investigations. In its research operations it seeks to accumulate and analyze experience in certain of the more significant phases of industrial relations and to present the findings in an unbiased manner. It maintains an office in Geneva which facilitates European contacts, and its staff and equipment are well adapted to the type of studies for which the Foundation's grants have been made.

Family Food Production Demonstration

Early in the spring of 1931 the President's Emergency Committee for Employment, in co-operation with the United States Department of Agriculture, Ohio State University, Purdue University, and the Universities of West Virginia, Illinois, and Kentucky, initiated a demonstration of a plan for combining, in a practical way, industrial employment with family food production. Investigations are being made of the feasibility of having five, four, or three days a week constitute a full week's work for employees in certain industries, with the remainder of the week available, at least in part, for the production of the family food supply. This food supply may be produced either in individual gardens or holdings of larger area, or on a tract handled by the industrial plant on a community basis. A period of demonstration and promotion

will be necessary before the possibility of making the project an industrial or state responsibility can be determined. The Foundation has made an appropriation toward a one-year trial.

The Dutch Economic Institute

The Dutch Economic Institute, working in close cooperation with the University of Commerce at Rotterdam, has undertaken a research program which will include studies of the business cycle and of structural and other changes taking place in the organization of business in the Netherlands. The compactness of Dutch economic life and its importance to the international trade of the world place the institute in a strategic position for an important contribution to the general field of research in industrial stabilization. The Foundation's grant to the institute covers a five-year period.

Institute for International Economics and Maritime Trade, Kiel

The Foundation's grant to the Institute for International Economics and Maritime Trade at Kiel, Germany, is for the support of general research over a three-year period. The institute was established in the University of Kiel in 1913 as a specialized research organization in the field of international economics. The research

projects, the publications, and the library of the institute are of high quality. Studies of the international aspects of the business cycle are designed to supplement the work on national business cycles now proceeding in various European countries and in the United States.

International Relations

The field of international relations is a central interest in the Foundation's program of research in the social sciences. Studies in this field are believed to be effective in reducing areas of antagonism due to national prejudices, and in developing a positive habit of collaboration in the consideration of problems which overlap national boundaries. During 1931 the following appropriations were made:

Institute of Pacific Relations. American Council	$90,000
Social Science Research Council	31,250
American Institute of Mining and Metallurgical Engineers	15,000
Notgemeinschaft der Deutschen Wissenschaft	25,000
Total	$161,250

The Institute of Pacific Relations

The Institute of Pacific Relations has as its objective the promotion of a more accurate and sympathetic understanding of the problems of the Pacific among national groups of that area. Its value both as a research organization and as an instrument for the promotion of international

good-will is gaining increasing recognition. The activities of the institute fall into three categories: (1) a biennial conference held in some country of the Pacific area; (2) a continuing program, national and international, in adult education in Pacific affairs; and (3) a continuing program, national and international, of research on problems of the Pacific. The institute maintains an international secretariat at Honolulu, publishes a monthly magazine, and directly and through national committees carries on a significant research program.

Since 1926 the Laura Spelman Rockefeller Memorial and The Rockefeller Foundation have made grants to the Institute of Pacific Relations for its general budget and for special researches. The institute also receives support from the Carnegie Endowment for International Peace and from other sources in the United States. The two appropriations made by the Foundation in 1931 were to the American Council of the Institute of Pacific Relations: one was of an emergency nature; the other was toward the general budget of the council over a three-year period. The council is the representative body of the institute in the United States, which not only carries forward the institute's program in this country, but undertakes to raise funds for the international research program.

The Social Science Research Council

In 1931 the Foundation made an appropriation to the Social Science Research Council toward the maintenance, over a period of two and a half years, of a program of research planning in the field of international relations. The council has now a special committee to direct the program and to keep in touch with individual or organization research, under way or projected in this field. The committee will endeavor to coordinate these investigations and to lend support to them wherever possible. It will act as a planning body and will prepare, and encourage other specialized groups or individuals to prepare, a comprehensive research program in international relations.

The American Institute of Mining and Metallurgical Engineers

A comprehensive study of the mineral resources of the world has recently been undertaken under the auspices of the American Institute of Mining and Metallurgical Engineers. The purpose of the inquiry is to correlate findings already obtained from other sources, to initiate studies necessary to fill the gaps, to eliminate useless duplications of effort in this field, and to present the subject in understandable form to the public. The primary object is fact-finding and

interpretation, not propaganda for any political policy. While raw-material problems are of a political nature and are recognized as of increasing frequency and importance, much confusion obtains both as to the facts, and as to their bearing on public policies. Three leading mineral organizations in Great Britain are preparing to undertake a similar inquiry, and these groups will cooperate with the American Institute. The Foundation's grant to the institute is for a three-year period.

Notgemeinschaft der Deutschen Wissenschaft

The Foundation in 1931 made a grant for a two-year period toward the expenses of a committee for research in international relations organized by the Notgemeinschaft der Deutschen Wissenschaft. The committee consists of scholars from various fields and represents the beginning of a promising program in cooperative research upon international questions, in which German jurists, economists, political scientists, sociologists, and publicists will participate.

Cultural Anthropology

The Foundation recognizes cultural anthropology as a special field of interest, the development of which presents an element of urgency. Though there are a number of places in the

world where the organization of social life is simple and so at variance with our Western culture as to invite study, yet the time is rapidly passing when scientific observation will be practicable and profitable. Soon, it appears, there will be no race or tribe so isolated as to preserve its primitive language and customs intact. While there are still opportunities for anthropological research, there is need for a degree of concentration upon projects in this field. The Foundation made appropriations as follows in 1931:

International Institute of African Languages and Cultures....	$250,000
Harvard University.....	75,000
Tulane University of Louisiana	45,000
Australian National Research Council	80,000
Royal Anthropological Institute of Great Britain and Ireland	10,500
Total.....	$460,500

The International Institute of African Languages and Cultures

A considerable appropriation for use over a five-year period was made to the general budget of the International Institute of African Languages and Cultures, which has headquarters in London. The institute derives its general support from the government, from colonial services, and from private sources. It seeks to bring about closer association between scientific knowledge and the practical interests of administrators, educators, missionaries, and colonists in Africa.

The penetration of Western civilization has been proceeding with extraordinary rapidity on the African continent, giving rise to human problems of important and difficult nature on so large a scale that their intelligent solution is a matter of world concern. The institute's program includes inquiry into the effect of new economic forces on the structure of native society, inquiry into native law and customs, various psychological studies, and field investigations by anthropologists and linguists.

Harvard University

An outstanding program which combines the promotion of research in anthropology with the training of graduate students in methods of field investigation has been developed at Harvard University. The university has long been well equipped with faculty, library, and museum facilities, but the training of graduate students in anthropological research has been a serious problem both for the university and the student, since the year of research in the field, which it is customary to require of candidates for the doctor's degree, is both difficult and expensive to secure. The Foundation's recent grant for a five-year period, together with a contribution from the university for the same purpose, will permit field investigations of a number of

ethnological, sociological, archeological, and anthropometric problems.

Tulane University of Louisiana

The Department of Middle American Research at Tulane University was established in 1924 to carry on research into the history, archeology, geography, and economic resources of Mexico, Central America, and the West Indies. The department has become a center for research in the Mayan field especially. It is a natural clearing house for this subject, both on account of its geographical location—New Orleans—and because of its museum and library. The library is a special collection of twenty thousand books and pamphlets and, in connection with it, the department maintains an index of all Mayan ruins together with plans, photographs, and an extensive bibliography. The Foundation is assisting the department's research program over a three-year period.

The Australian National Research Council

The Australian National Research Council has received support from the Foundation during the past six years in the form of conditional grants, matched by the commonwealth and state governments of Australia, for anthropological research and publication. The most

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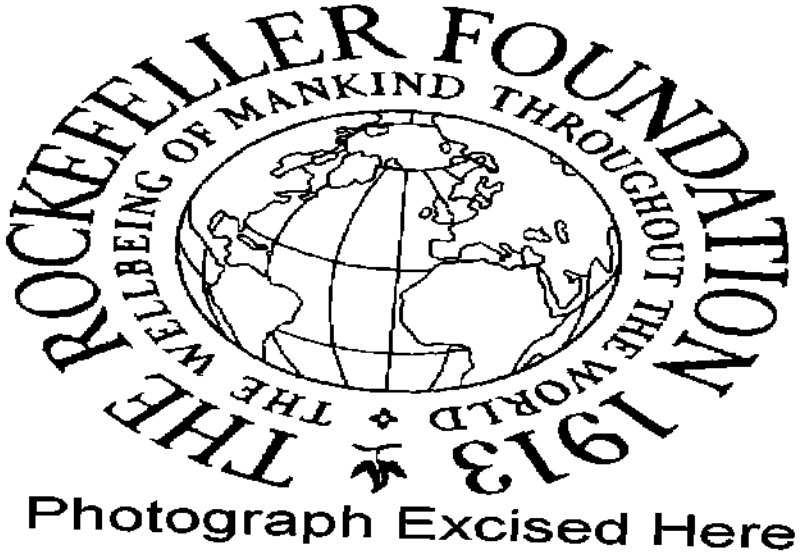
An Australian aborigine.

The Foundation is giving support to studies of the primitive peoples of Australia and the South Pacific Islands, which are being conducted under the auspices of the Australian National Research Council.



Photograph Excised Here

Taking head measurements of an Australian aborigine

recent Foundation grants will permit the continuance of the study of rapidly disappearing primitive peoples in Australia and the South Pacific Islands.

The Royal Anthropological Institute of Great Britain and Ireland

The Royal Anthropological Institute, in London, seeks to stimulate the systematic study of the life and problems of native peoples within the British Empire and to create understanding of the need of anthropological training for those entering the Indian and other colonial services. In 1925 the Laura Spelman Rockefeller Memorial extended support to the Royal Anthropological Institute over a five-year period. Since then the institute has succeeded in considerably increasing its local support and has made excellent progress in the promotion of its objectives. The Foundation grant to the institute is for a six-year period.

Schools of Social Technology

The Rockefeller Foundation recognizes the desirability of continuing the program, begun by the Laura Spelman Rockefeller Memorial, of giving limited assistance to selected schools of social technology—law, business, public administration, and social work. In 1931 Foundation grants were made to one school of public

Photograph Excised Here

A group of children enrolled at St. George's School for Child Study, University of Toronto. The Foundation is contributing toward the work of this school.

Photograph Excised Here

A corner of the play yard of St. George's School for Child Study.

administration and to two schools of social work:

National Institute of Public Administration	$787,500
University of Chicago. School of Social Service Administration	150,000
National Catholic School of Social Service	45,000
Total	$982,500

The National Institute of Public Administration

The National Institute of Public Administration, affiliated with Columbia University, is engaged in general research, in field service to state and local government authorities, and in the training of advanced students for public office and for research. The Laura Spelman Rockefeller Memorial supported the institute's research program for a number of years; and two appropriations by the Foundation in 1931 look to the completion of this program, since a sum is contributed toward the institute's endowment, against an equal amount secured for the same purpose from other sources.

The University of Chicago School of Social Service Administration

The Rockefeller Foundation has made a grant toward the current expenses of the School of Social Service Administration of the University of Chicago for a three-year period to give the university further opportunity to meet the conditions of an appropriation of the Laura Spelman

Rockefeller Memorial toward the permanent endowment of the school. The School of Social Service Administration is making a notable contribution to research in the social sciences as well as to the professional preparation of social workers.

The National Catholic School of Social Service

For a number of years the National Catholic School of Social Service received financial aid from the Laura Spelman Rockefeller Memorial. The Foundation has extended this support on a tapering basis until June 30, 1935. The school, which is the principal Catholic training center for social workers, has an excellent record of accomplishment.

Community Organization and Planning

The Foundation has an interest in research into the practical aspects of community organization and planning. Though a number of undertakings receiving aid, classified elsewhere—for example, the research work of the School of Social Service Administration of the University of Chicago, the unemployment study of the University of Minnesota, and certain studies of the National Institute of Public Administration—undoubtedly include projects of great value as a basis for community planning, the Foundation

made only two appropriations where this was the central objective. These were:

University of Chicago	$250,000
Welfare Council of New York City	210,000
Total	$460,000

The University of Chicago
Local Community Research

Since 1924 one of the most comprehensive analyses yet undertaken of a large metropolitan area has been going forward at the University of Chicago under a special faculty committee on local community research. The interest and cooperation of outside agencies, both public and private, have been secured, and a large number of projects have been carried through to successful completion. The committee is being called upon to assist civic organizations in the study of various social problems, and members of the university's staff are frequently asked to advise and consult on matters of civic importance. Several grants in support of this program were made by the Laura Spelman Rockefeller Memorial, and in 1931 the Foundation extended the support over a five-year period beginning in 1932.

The Welfare Council of New York City

In 1931 the Foundation appropriated $210,000 toward the support of the Research Bureau of the Welfare Council over a three-year period.

The council has as its chief purpose the fostering of habits of thinking and acting in concert among the nine hundred social agencies that constitute its membership. It is being increasingly used as an advisory and administrative body. The research bureau is one of the most important divisions of the council, since, through investigation and fact-finding, it is laying the foundation for satisfactory social planning in New York. The bureau maintains various statistical services reporting the income and expenditures of social agencies on a monthly basis, and the services rendered by functional groups of agencies; it undertakes to inventory existing welfare and health services, to analyze the needs of special groups in the community, and to make a number of studies upon the varied and complex social problems of a great city.

General Social Science Programs

The Foundation continued to give support during 1931 to certain programs having general significance in the development of the social sciences. Grants were made for the holding of conferences, for publications, for the fellowship program, and for research. The individual items were as follows:

Social Science Research Council.	Summer Conference....	$12,500
Social Science Research Council.	Fellowships.....	180,000

Social Science Research Council.	Research Projects.....	$225,000
Social Science Research Council.	Conferences and Planning	250,000
Social Science Research Council.	Grants in Aid.....	100,000
Social Science Fellowships.....		200,000
Encyclopaedia of the Social Sciences.....		200,000
Total.....		$1,167,500

The Social Science Research Council

From the time of its organization in 1923, the Social Science Research Council received support from the Laura Spelman Rockefeller Memorial. The council represents all the social sciences and is of foremost importance in advancing cooperative research. Its activities are varied, and the appropriations of the Foundation in 1931 take account of several specific aspects of the general program, namely, research projects, grants in aid for research workers, fellowships, conferences, and planning. The promotion of research is the objective of all council activities, but planning and appraisal of projects are recognized as essential to this end. Advisory committees in several fields, such as agricultural problems, finance and industry, migration, industrial relations, public administration, international relations, not only evaluate individual projects, but formulate plans for the development of research and of competent personnel in the particular field. As the council's work largely depends upon voluntary collaboration from specialists in the field of the social sciences,

meetings and conferences are essential to successful operation. The various committees meet during the year as well as at the annual summer conference, which is especially planned to bring a sense of unity into the council's entire program.

The council acts in an administrative capacity for the Foundation in awarding grants in aid and fellowships. Individuals whose capacity for productive research has been clearly demonstrated receive small grants for the completion of significant projects. The council's fellowship program is directed toward the better training of personnel for research. Appointments are confined to citizens of the United States and Canada. Fellows are usually on the postdoctorate level and have given promise of being productive research workers. Many go to Europe to carry on specific projects.

Encyclopaedia of the Social Sciences

Ten societies in the field of the social sciences are sponsoring the publication of the Encyclopaedia. The work, begun in 1927 with an appropriation from the Laura Spelman Rockefeller Memorial, has resulted in the publication, up to the present time, of six volumes. Nine additional volumes are projected, since the Encyclopaedia is of inclusive nature, with articles upon a wide range of topics relating to economics,

sociology, history, political science, anthropology, ethics, philosophy, law, education, psychology, and the arts. Costs have assumed larger proportions than the original estimate. The Foundation made grants in 1929, 1930, and 1931 to insure the continuance of the work until income from royalties places the Encyclopaedia on a self-supporting basis.

Social Science Fellowships

The Foundation's program to provide personnel for research in the social sciences is administered in part directly, and in part through the offices of the Social Science Research Council. The council awards fellowships to American research workers; the Foundation itself selects foreign scholars for research fellowships. The selection of European fellows is made by a Foundation representative in Paris and, until 1930, the Foundation supervised the programs of those fellows who came to America. In the past two years the council has combined this advisory work for foreign fellows with its administration of the program for American fellows. A summary of the fellowship program in 1931 is given below.

Through the Social Science Research Council ninety-five fellowships were awarded during the year. All were granted to American students

who pursued their studies in the various countries indicated in the succeeding tabulation. A number studied in more than one country.

PLACE OF STUDY OF AMERICAN FELLOWS IN THE SOCIAL SCIENCES

Place	*Number of Fellows*
Africa	2
Australia	1
Austria	4
Balkan States	1
Belgium	2
Canada	2
Czechoslovakia	2
England	17
France	12
Germany	17
Italy	4
Mexico	1
Near East	2
Netherlands	3
Russia	1
Poland	1
Spain	1
Switzerland	9
United States	61

In addition, there were, during 1931, a total of 133 fellowships in the social sciences administered directly by The Rockefeller Foundation. A majority of this latter group of students was of European origin. Of the 133 fellows, sixty-five studied in the United States, sixty-five in Europe, two in both the United States and Europe, and one in both the United States and Canada. The distribution according to country of origin is shown in the table on the following page.

SOCIAL SCIENCE FELLOWSHIPS ADMINISTERED BY THE ROCKEFELLER FOUNDATION IN 1931

Country of Origin	*Number of Fellows*
Australia	8
Austria	7
British Isles	5
Bulgaria	7
Canada	2
China	3
Czechoslovakia	3
Denmark	2
England	9
Estonia	2
Finland	1
France	12
Germany	21
Hungary	8
Irish Free State	1
Italy	8
Latvia	2
Lithuania	1
Netherlands	6
New Zealand	4
Norway	1
Poland	11
Rumania	2
Sweden	2
Switzerland	1
Syria	1
Turkey	1
Yugoslavia	2
Total	133

Unclassified Grants

A number of appropriations, which fall under none of the specific programs in the social sciences mentioned above, were made by the Foundation in 1931. In certain cases the grants were simple extensions, representing continuations or completions of undertakings which had

received support previously either from the Laura Spelman Rockefeller Memorial or from the Foundation. In few instances is there expectation of any further assistance. These appropriations are as follows:

International Institute of Public Law, Paris	$25,000
Jean Jacques Rousseau Institute, Geneva	10,000
University of Denver	15,000
Massachusetts Department of Mental Diseases	25,000
American Law Institute	25,000
Joint Vocational Service	10,800
Johns Hopkins University. Study of Civil Justice	10,000
Psychological Institute of the University of Vienna	16,000
University of Hawaii	45,000
Behavior Research Fund, Chicago	25,000
Total	$206,800

The International Institute of Public Law, Paris

The International Institute of Public Law, Paris, was founded in 1926 for the purpose of promoting scientific work in public law and political science. Its members are prominent political scientists from fifteen countries of Europe and America, who support the greater part of the institute's work with their dues. The holding of annual meetings and the publication of a year book containing the papers presented at such meetings, and translations into French of the more important laws and rulings of the principal countries of the world which have common interest, are the chief activities of the institute. The Foundation's grant, dis-

tributed over a five-year period, is for a simultaneous investigation in selected countries of important questions of public law, to permit a comparison of methods of social control used in different areas.

The Jean Jacques Rousseau Institute

The Jean Jacques Rousseau Institute, Geneva, was established in 1912 as a teacher-training school and center for psychological research. Since 1929 the institute has been attached to the Faculty of Letters of the University of Geneva and has developed a student body of international character. The emphasis is increasingly upon research in child psychology. The Laura Spelman Rockefeller Memorial assisted the institute for a number of years. The Foundation has extended this aid for an additional year.

The University of Denver

The University of Denver in 1924 organized a Bureau of Business and Social Research to study particularly the economic and social conditions of the Rocky Mountain region. The bureau collects and analyzes fundamental statistical data, publishes a monthly bulletin containing various studies of local situations, and trains graduate students of the university in statistical

and general research methods. The Laura Spelman Rockefeller Memorial in 1925 gave support to the bureau to provide for regional research in a section of the country little developed. The Rockefeller Foundation has now made an additional three-year grant toward the continuation of the program.

The Massachusetts Department of Mental Diseases

In 1928 an appropriation was made by the Laura Spelman Rockefeller Memorial to the Massachusetts Department of Mental Diseases for the purpose of carrying on a statistical and record study of the insane, epileptic, and mental defectives in the institutions of the Commonwealth of Massachusetts. An analysis of the 114,078 case records collected by the department will constitute the first study, covering an extended period of years, in which mental diseases are regarded as a state problem. On both the scientific and administrative sides the study is expected to yield results of considerable importance. A grant has been made by The Rockefeller Foundation over a three-year period toward the completion of this project.

The American Law Institute

The Foundation has made a grant to the American Law Institute toward the completion

of a study, initiated in 1929, of law administration in the federal courts. Originally the National Commission on Law Observance and Enforcement was responsible for this study, and when the commission disbanded on June 30, 1931, the vast collection of material which had been accumulated was in an unfinished state. The American Law Institute assumed the responsibility of preparing an analytical report to make available the large mass of socio-legal data already on file.

The Joint Vocational Service

Several years ago the American Association of Social Workers and the National Organization for Public Health Nursing combined their respective vocational bureaus and established, in New York City, the Joint Vocational Service. A grant was made toward the administrative budget by the Laura Spelman Rockefeller Memorial. It was expected that the gradual increase in fees and subscriptions would eventually enable the service to approach a self-supporting basis. The present period of financial depression has, however, seriously affected the organization's income at a time when its service is most needed. Further assistance has been extended by The Rockefeller Foundation on a tapering basis over a three-year period.

The Johns Hopkins University

Two years ago the Institute of Law at the Johns Hopkins University initiated a study of the expense, delay, and uncertainty attending the administration of civil justice in New York State. The purpose was to identify specific causes of difficulties and to recommend changes in administration, looking to their correction. Data have been collected which, when analyzed and interpreted, will reveal the major problems and will suggest a comprehensive method of improving the administration of civil justice, not only in New York but elsewhere. The aid of the Foundation is given for the expenses of this work for one year.

University of Vienna
Psychological Institute

The Psychological Institute of the University of Vienna specializes in problems of child psychology, with emphasis upon the social aspects of psychology. It possesses exceptional facilities for work in this field owing to connection with the Municipal Child Placing Station, through which pass annually hundreds of infants and young children, who for one reason or another require special treatment. The institute has laboratory quarters in the immediate vicinity of the university and provides for the research

training of a limited number of advanced university students. In recent years it has drawn an increasing number of visiting foreign scholars. The Rockefeller Foundation has made a grant toward the general program of the Psychological Institute for use over a four-year period.

The University of Hawaii

A program for the study of the biological aspects of racial amalgamations was initiated by the University of Hawaii in 1927 with the aid of a five-year grant from The Rockefeller Foundation. In order that the sociological aspects of racial problems might also be studied, the Foundation made another appropriation in 1929. The support was extended for an additional period in 1931. The Hawaiian situation offers excellent opportunities for the study of a variety of dynamic and fundamental racial problems, since the influx during the past century of Caucasians, Chinese, Portuguese, Porto Ricans, Japanese, and Filipinos has given rise to radical physical, social, and cultural changes in the population.

The Behavior Research Fund

The Behavior Research Fund, an outgrowth of work begun by the Institute for Juvenile Research in Chicago, represents one of the first

attempts made in the United States to deal scientifically with the problem of antisocial behavior. Established in 1909, it became an adjunct of the Cook County Juvenile Court, and subsequently undertook the preventive work of the Division of Criminology of the Illinois Department of Public Welfare. The Fund has as its purpose the treatment, amelioration, and elimination of behavior problems in children and adults, and the conduct and promotion of research and instruction in this field. Contributions toward the financing of the program have been made by over four hundred individuals. The Rockefeller Foundation's appropriation is for the work of the Behavior Research Fund during the fiscal year 1931–1932, since the financial depression has reduced the usual community contributions toward the budget.

THE SOCIAL SCIENCES STAFF DURING 1931

DIRECTOR
Edmund E. Day

ASSOCIATE DIRECTOR IN EUROPE
Selskar M. Gunn

ASSISTANT DIRECTOR
Sydnor Walker

ASSISTANT DIRECTOR IN EUROPE
John V. Van Sickle

THE HUMANITIES

CONTENTS

THE HUMANITIES

General Program

The humanities may be broadly construed as including the liberal and historical arts, literature, philology (ancient and modern languages), and archeology.

For a number of years the General Education Board and the International Education Board gave support to humanistic education, making annual grants to the American Classical League and other organizations, and capital grants to Princeton and Vanderbilt universities, the Fogg Art Museum of Harvard University, the American School of Classical Studies at Athens, the American Academy in Rome, and the Oriental Institute of the University of Chicago. With a view to stimulating research in the humanities, an experimental program was inaugurated, involving contributions to the American Council of Learned Societies and to a number of leading universities in the United States.

This program, already in operation on a rather extensive scale, and touching practically every phase of humanistic work in the United States, has been continued by the Foundation since 1929 on the same broad but experimental basis. New

grants were made in 1929 and 1930 to the American Schools of Oriental Research in Baghdad and Jerusalem, to the American School of Classical Studies at Athens, to the Johns Hopkins University, to the University of Chicago, to historical researches in France, to the British Museum, London, to the University of Cambridge and the University of Oxford, England, to the Bibliothèque Nationale and the American Library in Paris, and to the Abraham Lincoln Foundation in Germany, the latter being an organization for the aid of representative German scholars pursuing humanistic studies.

During 1931 the program proceeded along the lines laid down in former years by the General Education Board, the International Education Board, and The Rockefeller Foundation. The general interest continued to be in the direction of the increase of knowledge. One of the most obvious ways of promoting knowledge in the broad field of the humanities is to safeguard and render permanently accessible to present and future generations the magnificent collections of books, manuscripts, and other documents which have accumulated for many centuries at important centers of learning. With this point in mind, a substantial grant was made during 1931 to the University of Oxford, England, for certain projects concerning the Bodleian Library. In

THE ROCKEFELLER FOUNDATION 1913
WELLBEING OF MANKIND THROUGHOUT THE WORLD

Photograph Excised Here

The Oriental Institute of the University of Chicago

THE ROCKEFELLER FOUNDATION 1913
WELLBEING OF MANKIND THROUGHOUT THE WORLD

Photograph Excised Here

The American School of Oriental Research, Jerusalem. A recent excavation at the corner of the school property brought to light the remains of the third wall on the north of the city.

the field of archeology, support was given to excavation work dealing with early civilizations in certain parts of Asia, and to projects in Athens, Greece, and in the island of Lesbos. Appropriations were made to the American Council of Learned Societies for administrative expenses and in support of a program of fellowships and grants in aid. Grants for use as general funds for research in the humanities were made to Columbia University and to the University of Chicago. An appropriation was made to the American Library Association for the preparation and publication of lists of foreign government serials. The total amount appropriated in the field of the humanities during 1931 was $2,978,100.

Research Projects

Columbia University

General Research Fund

In accordance with its policy of cooperating with selected universities in the development of advanced work in the humanities, the Foundation made an appropriation to Columbia University, to be employed as a fund for advanced humanistic research over a period of two years. Similar grants had already been made by the General Education Board and by the Foundation to Harvard University, Princeton University,

THE ROCKEFELLER FOUNDATION 1913
WELLBEING OF MANKIND THROUGHOUT THE WORLD

Photograph Excised Here

A section of the Athenian Agora, or ancient market place, recently excavated under the auspices of the American School of Classical Studies at Athens. The foundations here seen are those of one of the stoas, or covered colonnades, where the Athenians conducted business, held meetings and trials, and engaged in philosophical discussions.

the University of Chicago, the University of Michigan, the University of Virginia, Yale University, and the Johns Hopkins University.

Columbia University, through its Council on Research in the Humanities, has approved forty-seven research projects. The greater number of these lie in the fields of language, literature, and literary history; seven are in the field of history, including the history of science; six in art and archeology, and four in philosophy and the history of religion. Some are cooperative undertakings. The research fund will permit continuation of the projects already begun and the initiation of additional ones.

The University of Chicago
General Research Fund

The Foundation has taken similar action in regard to the University of Chicago, by providing an appropriation for use over a two-year period as a general research fund for the development of advanced work in the humanities. The University of Chicago's proposed program in the humanities for the next five years has been divided into twenty-six definite projects. Eight of these are studies which were initiated under the grant of the General Education Board. Some of them deal with research work in early English, others are of a lexicological nature, and

still others include studies of folklore, phonetics, and early literatures in various parts of the world.

The American Council of Learned Societies
Administration and Support of Projects

The American Council of Learned Societies, founded in 1919, now has as its constituents eighteen national societies. It has a staff of permanent executive officers and some twenty active committees on special phases of work within its field. In all, more than one hundred and fifty scholars actively participate in its activities. The functions of the council fall into three principal categories: the maintenance and strengthening of relations between the constituent societies and the promotion of their interests; the representation of American scholarship in international organizations; and the advancement of humanistic studies, especially in ways that require cooperation of societies and scholars in more than one field. In connection with the third function it may be mentioned that the council serves as a national body in disposing of funds for research or publication, examining critically and passing upon projects from American sources, with the object of supporting undertakings found meritorious and significant. To this organization The Rockefeller Foundation in 1931 made an appropriation to be distributed

over a period of two years, beginning in 1932. The funds granted to American universities by the General Education Board, the International Education Board, and The Rockefeller Foundation, together with the general fund appropriated to the American Council of Learned Societies, constitute highly selective and representatively apportioned assistance to the humanities throughout the United States.

The University of Pennsylvania
Excavations at Ur

Toward the expenses of continuing for an additional four-year period the excavations at Ur of the Chaldees, The Rockefeller Foundation has made a grant to the University of Pennsylvania. The excavations at Ur have been carried on for a number of years by the University of Pennsylvania in collaboration with the British Museum, under the direction of Leonard Woolley, one of the most eminent of the younger British archeologists. The site has proved to be one of the most productive in Mesopotamia and has yielded important remains of Sumerian and Assyrian cultures. In 1928 the British Museum had a special exhibit of antiquities taken from Ur, which included musical instruments, furniture, ornaments, armor, and weapons made of precious metals. Half the material unearthed remains in

Iraq; the other half is divided equally between the British Museum and the Museum of the University of Pennsylvania.

Yale University

Support of Excavations at Jerash and Dura-Europos

Yale University is receiving Foundation support, for a two-year period beginning in 1931, for its excavations at Jerash in Transjordan and Dura-Europos in Syria.

In 1927 the General Education Board made an appropriation to Yale University for research in the humanities. The most important project planned in connection with this grant was excavation work at Dura, an ancient city on the Euphrates, northeast of Damascus, where earlier excavations had revealed important paintings of the Roman period. Since 1928 the university, in cooperation with the French Academy of Inscriptions and Belles Lettres, has been conducting a systematic exploration of the ruins of this buried city. The unique character of the site and the valuable information on the history and culture of the Hellenistic-Roman period in the Eastern Mediterranean to be derived from the remains of this city have justified a renewal of the excavations. Information on a number of the findings, which include inscriptions, bas-reliefs, pottery, lamps, armor, figurines, textiles, fabrics, sculp-

tures, coins, and interesting architectural ruins, has already been published. Excavation of the ancient city of Jerash in Transjordan is also under way. This was one of the great cities during the Roman period and was the site of numerous Christian churches. The ruins of the church of St. Theodore, which dates from the fourth century, are of especial archeological interest. The work now in progress is under the general direction of Professor M. I. Rostovtzeff of Yale University.

Library, Museum, and Bibliographical Work

The American Library Association

Preparation and Publication of Lists of Foreign Government Serials

In 1926 the Laura Spelman Rockefeller Memorial made an appropriation to the American Library Association for the preparation and publication of a bibliography of serial publications of foreign governments. Lists of the publications of a large number of countries, including some countries in which there had previously been no systematic attempt at the listing of publications, have already been finished. The present appropriation will make possible the completion of the work. Arrangements have been made with the publishing company for the

THE ROCKEFELLER FOUNDATION 1913
WELLBEING OF MANKIND THROUGHOUT THE WORLD

Photograph Excised Here

Courtesy of the Society for the Study of Dura-Europos

Main road of the ancient city of Dura, Syria, leading to the Palmyra gate. To the left are Roman baths with colonnade

printing and publishing of the final edition on a commercial basis, without cost to the American Library Association.

The American School of Classical Studies at Athens
Government Museum at Lesbos

Through a grant to the American School of Classical Studies at Athens, The Rockefeller Foundation has made a contribution toward the building of a large museum for the preservation and display of antiquities on the island of Lesbos. As a result of the advance of civilization, the relics on the island are rapidly being destroyed. The prompt construction of a museum will salvage many of these and provide for their permanent display under the administration of the Greek Government. The province of Lesbos and the Department of Archeology in the Ministry of Education of Greece are cooperating in the building of this museum, which will contain sections devoted to the art and relics of medieval and later periods.

The University of Oxford
Bodleian Library

In the report of The Rockefeller Foundation for the year 1930 an account was given of an appropriation for preliminary studies in connection with the future program of the Bodleian

THE ROCKEFELLER FOUNDATION 1913
THE WELLBEING OF MANKIND THROUGHOUT THE WORLD

Photograph Excised Here

The Radcliffe Camera, undergradnate reading-room of the Bodleian Library, University of Oxford.

Library at the University of Oxford. Mention was also made of the commission appointed by the university to visit university and other libraries in Europe, the United States, and Canada, for the purpose of reporting on the best methods of enlarging facilities at the Bodleian Library. The Foundation has now made an appropriation of not more than $2,300,000 to Oxford University for the development, at an estimated cost of £944,300, of the Bodleian and other university libraries at Oxford, conditioned upon the securing of certain sums from other sources for the same purpose.

Because of the extent and quality of its collections, the Bodleian Library ranks among the great libraries of the world and occupies a unique position in the field of humanistic studies. For more than a century before the British Museum was founded, this library was the depository for books given to the nation. Since 1610 it has received the significant works in English literature as they appeared. Because of its treasures of manuscripts and rare printed books the library is of international significance in the fields of history and English, classical, and oriental literatures. The commission which visited the United States agreed upon a plan to utilize and recondition present buildings, emphasizing centrality. This program, when carried out, will

provide for two centuries of growth at the present rate of increase.

Fellowships and Grants in Aid of Research

The American School of Classical Studies at Athens

An additional appropriation was made to the American School of Classical Studies at Athens, which maintains a number of fellowships in archeology, generally on the basis of a three-year appointment. This school is carrying on important excavations of the Agora at Athens, and the fellowships are intended to train personnel for this work. It is also expected that such trained personnel will later find places on the staffs of American universities, since there is a great need for competent, well-trained classical archeologists in these institutions. Appointments for fellowships are made by the American School of Classical Studies through the standing Commission on the Excavations of the Athenian Agora.

The American Council of Learned Societies

Two appropriations have been made to the American Council of Learned Societies, one in connection with grants in aid of research in humanistic studies and another for the provision of fellowships. Both of these appropriations are for a period of two years, beginning in 1932.

The grants in aid fall into two categories: small grants designed to assist research by scholars trained in scientific methods, and larger grants reserved for mature scholars of substantial achievement, able to devote at least six months of uninterrupted work to the problem in hand. The purpose of both grants is to assist in the advancement of knowledge through the support of significant projects.

The fellowships supported by the Foundation in the field of humanistic studies and administered by the American Council of Learned Societies are of postdoctorate character. Their purpose is to provide opportunities for further training and experience in humanistic research for scholars of unusual ability. During 1931 twenty-six of these fellowships were held.

REPORT OF THE TREASURER

TREASURER'S REPORT

In the following pages is presented a report of the financial transactions of The Rockefeller Foundation for the year ending December 31, 1931.

The tabulation below summarizes the Prior Obligations and Appropriations Accounts:

Balance in Prior Obligations Account, December 31, 1930	$24,188,067.95	
Less unused balances of appropriations and authorizations allowed to lapse	686,462.46	$23,501,605.49
Balance in Appropriations Account, December 31, 1930	$41,714,625.83	
Unused balances of appropriations under prior obligations, allowed to lapse	411,462.46	
Income and refunds received during the year 1931	11,074,094.83	53,200,183.12
		$76,701,788.61
Disbursements	$17,477,225.02	
Appropriations and obligations not yet paid	57,496,305.66	74,973,530.68
Balance available for appropriation, December 31, 1931		$1,728,257.93

This available balance exists only because an authorization of $6,000,000, payable from principal to the extent that income proves insufficient, has been wholly charged against principal. Under authority voted at the meetings of April 16, 1930, January 14, 1931, and December 16, 1931, possible contributions of $7,575,000 have been set up in a Reserve for Contingent Projects and temporarily charged against principal. Naturally, this figure has been given no place in the foregoing estimate.

The balance in the Principal Fund on December 31, 1930, was $142,675,978.13. Additions during the year amounted to $275,000, but transfers of a total sum of $1,575,000 to the Reserve for Contingent Projects have reduced the principal to $141,375,978.13 on December 31, 1931.

Since the close of the year the accounts of the Comptroller, the accounts of the Treasurer, and the securities owned by the Corporation have been examined by Messrs. Price, Waterhouse, and Company, who have rendered a report to the Chairman.

The financial condition and operations are set forth in the appended exhibits as follows:

EXHIBIT A
BALANCE SHEET—DECEMBER 31, 1931

ASSETS

INVESTMENTS		
Securities (ledger valuation)		$191,805,665.55*
CURRENT ASSETS		
Secured demand loans	$8,625,000.00	
Chase National Bank Certificate of Deposit due February 29,1932	5,000,000.00	
Cash on deposit	164,436.39	
Advances and deferred charges under appropriations and sundry accounts receivable	2,599,508.18	
	$16,388,944.57	
Less accounts payable	19,068.40	16,369,876.17
LAND, BUILDINGS, AND EQUIPMENT		
In New York	$48,516.52	
In Paris	66,686.79	
In China	298,331.95	413,535.26
		$208,589,076.98

*This figure includes accrued interest on securities purchased amounting to $12,458.33.

EXHIBIT A
BALANCE SHEET—DECEMBER 31, 1931

FUNDS

PRINCIPAL FUND			$141,375,978.13
RESERVE FOR CONTINGENT PROJECTS			7,575,000.00
APPROPRIATION FUNDS			
Appropriations, pledges, and authorizations made prior to January 3, 1929			
Unpaid appropriations	$12,243,314.66		
Unpaid pledges and authorizations	4,494,960.00	$16,738,274.66	
Appropriations, pledges, and authorizations made subsequent to January 3, 1929			
Unpaid appropriations	$31,787,031.00		
Unpaid pledges and authorizations	8,971,000.00	40,758,031.00	57,496,305.66
BALANCE AVAILABLE FOR APPROPRIATION			1,728,257.93†
LAND, BUILDINGS, AND EQUIPMENT FUND		$413,535.26	
			413,535.26
			$208,589,076.98

† This available balance exists only because an authorization of $6,000,000, payable from principal to the extent that income proves insufficient, has been wholly charged against principal.

EXHIBIT B

CONSOLIDATED STATEMENT OF FUNDS AVAILABLE FOR APPROPRIATION AND DISBURSEMENT

AMOUNTS AVAILABLE

PRIOR OBLIGATIONS ACCOUNT			
Balance, December 31, 1930		$24,188,067.95	
Unused balances of appropriations allowed to lapse, credited to Appropriations Account	$411,462.46		
Authorization allowed to lapse, returned to Principal Fund	275,000.00	686,462.46	$23,501,605.49
APPROPRIATIONS ACCOUNT			
Balance, December 31, 1930		$41,714,625.83	
Income received during the year ended December 31, 1931		11,072,771.86	
Refunds received during the year 1931		1,322.97	
Unused balances of appropriations allowed to lapse (prior obligations)		411,462.46	53,200,183.12
			$76,701,788.61

DISBURSEMENTS

Universities and other educational institutions			
Education			
Medical sciences	$528,363.57		
Public health	9,168.37		
Nursing	64,068.55		
Social sciences	126,039.97		
Natural sciences	34,287.37		
General	7,500.00		
Departmental development	672,411.15		
Research programs	1,517,255.18		
Land and buildings	817,384.75	$3,776,478.91	

Research institutions and organizations			
Education			
Medical sciences	$2,345.20		
Social sciences	15,588.66		
General	10,000.00		
General development	2,174,374.23		
Research programs	814,118 54		
Land and buildings	588,655 51	$3,605,082.14	
Special committees and commissions		367,299 38	
Fellowships and grants in aid		1,509,502 37	
Miscellaneous		947,484 84	
Public health		3,586,820.75	
General		2,887,069 30	
Administration		797,487 33	$17,477,225 02
Balance, December 31, 1931			$59,224,563 59

This balance is available as follows:		
Amount due on appropriations, pledges, and authorizations made prior to January 3, 1929		$16,738,274.66
Amount due on appropriations, pledges, and authorizations made on or subsequent to January 3, 1929		40,758,031 00
		$57,496,305 66
This sum is due in the following years		
1932	$25,018,293 66	
1933	10,508,555 00	
1934	6,047,991.00	
1935	5,149,636.00	
1936	5,076,105.00	
1937	2,689,775.00	
1938	1,907,150.00	
1939	472,050.00	
1940	626,750.00	
	$57,496,305 66	
Balance available for appropriation		1,728,257.93
This sum is accounted for in securities and cash		$59,224,563.59

EXHIBIT C

APPROPRIATIONS MADE DURING THE YEAR 1931

Albany Medical College, New York	$20,000.00
Agricultural Club Work in Sweden and Finland. Administration	3,750.00
American Council of Learned Societies, Washington, D. C.	420,000.00
American Institute of Mining and Metallurgical Engineers, New York City	15,000.00
American Law Institute, Philadelphia, Pennsylvania	25,000.00
American Library Association, Chicago, Illinois	5,000.00
American School of Classical Studies at Athens, Greece	25,600.00
American Society of Civil Engineers, New York City	6,000.00
American University of Beirut, Syria	480,000.00
Association of Community Chests and Councils, New York City	75,000.00
Australian National Research Council, Sydney, Australia	80,000.00
Behavior Research Fund, Chicago, Illinois	25,000.00
Bermuda Biological Station for Research, Inc., Bermuda	12,000.00
Brookings Institution, Inc., Washington, D. C.	262,500.00
Brussels, Belgium. Assistance Publique (Maintenance of St. Pierre Hospital)	20,000.00
Bulletins and Reprints	7,200.00
China. Developmental aid in the medical and natural sciences	5,000.00
China Medical Board, Inc., New York City	304,000.00
Chulalongkorn University, Bangkok, Siam	10,000.00
Columbia University, New York City	120,000.00
Dutch Economic Institute, Rotterdam, Netherlands	25,000.00
East Harlem Health Center, Inc, New York City	7,500.00
East Harlem Nursing and Health Service, Inc., New York City	36,500.00
Encyclopaedia of the Social Sciences, New York City	200,000.00
Fellowships	
Medical sciences	150,000.00
Natural sciences	164,000.00

Nursing education	$50,000.00
Resident fellowships in natural sciences, China	2,000.00
Social sciences	200,000.00
Fisk University, Nashville, Tennessee	10,000.00
Great Smoky Mountains Fund, Washington, D. C.	500.00
Hanover Polytechnic School, Germany	19,720.00
Harvard University, Cambridge, Massachusetts	125,000.00
Henry Phipps Institute for the Study, Treatment, and Prevention of Tuberculosis, Philadelphia, Pennsylvania	4,000.00
Hungarian Biological Research Institute, Tihany, Hungary	25,000.00
Industrial Relations Counselors, Inc., New York City	46,725.00
Institute for International Economics and Maritime Trade, Kiel, Germany	30,000.00
Institute for Psychiatric Research, Munich, Germany	89,000.00
Institute of Hygiene, Cluj, Rumania	6,110.00
Institute of Pacific Relations, Honolulu, Hawaii	90,000.00
International Health Division of the Rockefeller Foundation	2,729,214.00
International Institute of African Languages and Cultures, London, England	250,000.00
International Institute of Public Law, Paris, France	25,000.00
Iowa State College of Agriculture and Mechanic Arts, Ames, Iowa	30,000.00
Irish Free State. Establishment of a national public health laboratory	105,000.00
Jean Jacques Rousseau Institute, Geneva, Switzerland	10,000.00
Johns Hopkins University, Baltimore, Maryland	10,000.00
Joint Vocational Service, Inc., New York City	10,800.00
London Hospital, London, England	40,000.00
London School of Economics and Political Science, London, England	710,000.00
Long Island Biological Association, Cold Spring Harbor, Long Island, New York	20,000.00
Marine Biological Association of China, Amoy, China	3,000.00
Marine Biological Association of the United Kingdom, Plymouth, England	22,800.00
Massachusetts Department of Mental Diseases, Boston, Massachusetts	25,000.00
Massachusetts Institute of Technology, Cambridge, Massachusetts	170,000.00
Medical Research Council, Great Britain	118,000.00

EXHIBIT C—*Continued*

Nankai University, Tientsin, China	$75,000.00
National Academy of Sciences, Washington, D. C.	60,000.00
National Catholic School of Social Service, Washington, D. C.	45,000.00
National Institute of Public Administration, New York City	787,500.00
National Medical Association of China, Shanghai	1,200.00
National Research Council, Washington, D. C.	775,000.00
Nervous and Mental Diseases Hospital, "Socola," Jassy, Rumania	7,800.00
New Education Fellowship, London, England	12,500.00
New Zealand, Department of Scientific and Industrial Research	10,000.00
Notgemeinschaft der Deutschen Wissenschaft, Berlin, Germany	25,000.00
Nursing Education in Europe. Emergency aid	45,000.00
Philippine Islands. Research in genetics	5,000.00
Queen's University, Belfast, Northern Ireland	9,000.00
Research Aid Grants	
Medical sciences	135,000.00
Medical and natural sciences in China	10,000.00
Natural sciences	60,000.00
Riverside Church, New York City	50,000.00
Royal Anthropological Institute of Great Britain and Ireland, London, England	10,500.00
Rumanian Institute of Social Science, Bucharest, Rumania	22,500.00
St. Bartholomew's Hospital Medical College, London, England	12,750.00
Social Science Research Council, Inc., New York City	798,750.00
Surveys by others than officers	20,000.00
Trinity College, Dublin, Irish Free State	23,000.00
Tulane University of Louisiana, New Orleans	45,000.00
Unemployment Relief	
Demonstration of a plan for family food production in connection with industrial employment	25,000.00
Emergency Unemployment Relief Committee, New York City	750,000.00
University College, Dublin, Irish Free State	23,000.00
University College, London, England	570,000.00

University of Chicago, Illinois	$1,375,000.00
University of Denver, Colorado	15,000.00
University of Geneva, Switzerland	40,000.00
University of Hawaii, Honolulu	45,000.00
University of Leipzig, Germany	67,000.00
University of Minnesota, Minneapolis	350,000.00
University of Montreal, Canada	25,000.00
University of Munich, Germany	5,000.00
University of Oslo, Norway	155,000.00
University of Oxford, England	2,300,000.00
University of Padua, Italy	10,600.00
University of Pennsylvania, Philadelphia	22,500.00
University of Rochester, New York	15,340.00
University of Stockholm, Sweden	158,200.00
University of Szeged, Hungary	155,000.00
University of Toronto, Canada	600,000.00
University of Turin, Italy	10,540.00
University of Uppsala, Sweden	12,000.00
University of Vienna, Austria	16,000.00
University of Warsaw, Poland	50,000.00
Vanderbilt University, Nashville, Tennessee	250,000.00
Welfare Council of New York City	210,000.00
Woods Hole Oceanographic Institution, Woods Hole, Massachusetts	10,000.00
Yale University, New Haven, Connecticut	55,000.00
Administration	891,368.90
	$18,737,967.90

EXHIBIT D

1931 APPROPRIATIONS AND BALANCES OF PRIOR YEAR APPROPRIATIONS, AND PAYMENTS THEREON DURING THE YEAR

	APPROPRIATIONS	1931 PAYMENTS
UNIVERSITIES AND OTHER EDUCATIONAL INSTITUTIONS		
Medical Science Education		
Albany Medical College, New York		
Organization of extension teaching in medicine (RF 31102)	$20,000.00	$20,000.00
Brussels, Belgium. Assistance Publique		
Maintenance of St. Pierre Hospital (RF 31097)	20,000.00	.....
China Medical Board, Inc., New York City		
General purposes (RF 30113, 31112)	618,000.00	314,000.00
Salary and expenses of director (RF 29067)	40,000.00	20,000.00
Chulalongkorn University, Bangkok, Siam		
Equipment and supplies for medical, premedical, and nursing schools (ME 21059, 21093, 21148)	3,258.90	424.11
Visiting professors and nurse leaders (ME 28039, RF 29110, 30063, 31113)	126,913.41	35,991.85
National Central University, Nanking, China		
Medical School, Shanghai. Maintenance (RF 29039)	108,002.41	35,000.00
Peiping Union Medical College, Peiping, China		
Commutation and excess salaries of foreign and visiting professors and travel of visiting professors (ME 28121, 28122, RF 29038)	96,371.19	45,843.72
Depreciation, Peiping stores (CM 2760)	88,282.81	.....
Movable equipment (CA 28136)	9,848.89	9,848.89
São Paulo, Brazil, Faculty of Medicine		
Laboratory aid (ME 21092)	731.24	.....
Shantung Christian University, Tsinan, China		
School of Medicine. Maintenance (RF 29119, 30062)	40,000.00	22,255.00
University of Lyon, France		
Faculty of Medicine and Pharmacy. Interest on endowment (ME 21252, 28139, RF 29153)	12,635.00	.....

University of Montreal, Canada		
Faculty of Medicine. Development of laboratories (RF 30024, 31098)	$50,000.00	$25,000.00
Public Health Education		
University of the Philippines, Manila, Philippine Islands. Graduate School of Hygiene and Public Health. Salary and travel of visiting professors (ME 28091)	9,419.10	9,168.37
Nursing Education		
Emergency aid to schools of nursing in Budapest, Cracow, Debreczen, Warsaw, and Zagreb (RF 31099)	45,000.00	.....
Sleeper Davis Hospital, Peiping, China		
School of Nursing. Maintenance (CM 2786)	468.44	.....
St. Luke's International Hospital, Tokyo, Japan		
College of Nursing, Educational features (ME 21129)	12,500.00	5,000.00
School for Public Health and Bedside Nurses, Zagreb, Yugoslavia		
Development of teaching facilities in hospitals and dispensaries (RF 30071)	3,000.00	3,000.00
School for Public Health Nurses, Cluj, Rumania		
Improvement of teaching facilities (RF 29112)	10,000.00	1,764.35
State Central School of Nursing, Budapest, Hungary		
Maintenance (ME 28089)	6,000.00	.....
State Institute of Public Health, Prague, Czechoslovakia		
School of Nurses for Public Health and Social Welfare. Improvement of teaching services (RF 30082)	25,000.00	.....
University of Cracow, Poland		
School of Public Health and Bedside Nursing. Salaries and scholarships (ME 2927)	6,395.03	4,327.89
University of Debreczen, Hungary		
School of Nursing. Maintenance (ME 21197)	1,000.00	1,000.00
University of Lyon, France		
School of Nursing. Health center for field training courses (ME 28027)	38,000.00	10,000.00
Vanderbilt University, Nashville, Tennessee		
School of Nursing. Educational features (ME 21123, RF 29121)	87,500.00	35,000.00
Yale University, New Haven, Connecticut		
School of Nursing. Equipment, supplies, and incidentals (ME 21174)	3,976.31	3,976.31

EXHIBIT D—*Continued*

	APPROPRIATIONS	1931 PAYMENTS
UNIVERSITIES AND OTHER EDUCATIONAL INSTITUTIONS—*Continued*		
Social Science Education		
American University of Beirut, Syria		
Work in social science and commercial education (LS 735, RF 31014)	$30,943.35	$5,943.35
Atlanta School of Social Work, Georgia		
General budget (RF 30114)	11,500.00	8,091.25
National Catholic School of Social Service, Washington, D. C.		
Budget for instruction (RF 30050, 31040)	52,500.00	15,000.00
New York School of Social Work		
Courses for institution workers (RF 29053)	15,000.00	10,000.00
Tulane University of Louisiana, New Orleans		
Expansion program of its training course in social work (LS 821, 822)	21,000.00	12,000.00
University of Chicago, Illinois		
School of Social Service Administration.		
General endowment (LS 708, RF 31032)	1,000,000.00	.....
Current expenses (LS 709, RF 31039)	187,500.00	53,717.72
University of Vienna, Austria		
Institute of Psychology. General program (RF 31093)	16,000.00	.....
Western Reserve University, Cleveland, Ohio		
School of Applied Social Sciences. Expansion program (LS 783, 784)	31,250.00	18,750.00
Yenching University, Peiping, China		
College of Applied Social Sciences. Strengthening of work (LS 946)	97,537.65	2,537.65
Natural Science Education		
China		
Maintenance of science departments		
Fukien Christian University, Foochow (RF 29030)	10,940.62	5,000.00
Ginling College, Nanking (CM 2721)	1,670.22	.....
Lingnan University, Canton (CM 2761)	5,706.25	1,568.75

Nankai University, Tientsin (CM 2734)	$2,632.58	$361.30
National Central University, Nanking (CM 2762)	3,489.37	677.35
Shanghai College (CM 2688)	1,733.75	.....
Shantung Christian University, Tsinan (CM 2729)	6,994.69	1,411.31
Tsing Hua University, Peiping (CM 2749)	974.88	268.66
Yenching University, Peiping (CM 2717, RF 30020, 30064)	92,796.24	25,000.00
Endowment of science departments		
Yenching University, Peiping (RF 29078, 30019)	500,000.00	.....
General Education		
New Education Fellowship, London, England		
General program (RF 31081)	12,500.00	7,500.00
Departmental Development		
American University of Beirut, Syria		
Improvement of teaching facilities in the medical sciences, nursing, and the pre-medical subjects (RF 31124)	450,000.00	.....
California Institute of Technology, Pasadena		
Development of natural sciences, including buildings and equipment (RF 30080)	500,000.00	.....
Harvard University, Cambridge, Massachusetts		
Graduate School of Business Administration. Aid to library (LS 819)	44,608 27	24,719.98
Research in astronomy. Buildings, equipment, and endowment (RF 29130)	500,000.00	51,098.11
School of City Planning. Support (RF 29072)	175,000.00	34,968.50
Keio Gijuku University, Tokyo, Japan		
Salary and expenses of visiting professors in the biological sciences (ME 21168, 28432)	42,652 36	9,253.55
London School of Economics and Political Science, England		
Building extension, library aid, and maintenance (LS 627)	7,731.56	7,731.56
Further development of the resources of the library (RF 31030)	50,000.00	.....
Improving facilities for research and postgraduate teaching (RF 31031)	210,000.00	17,041.56
Nankai University, Tientsin, China		
Support of Institute of Economics (RF 31123)	75,000.00	.....
New York School of Social Work, New York City		
Development of faculty and research program (LS 752)	50,000.00	25,000.00

EXHIBIT D—*Continued*

	APPROPRIATIONS	1931 PAYMENTS
UNIVERSITIES AND OTHER EDUCATIONAL INSTITUTIONS—*Continued*		
Departmental Development—*Continued*		
Stanford University, California		
Hopkins Marine Station, Pacific Grove. Library fund (RF 30018)	$20,000.00	$.....
Syracuse University, Syracuse, New York		
School of Citizenship and Public Affairs. Aid for research work (RF 29049,29050)	15,000.00	15,000.00
Tohoku Imperial University, Sendai, Japan		
Salary and expenses of visiting professors in biological sciences (ME 21167)	38,898.83	7,984.56
University of Bristol, England		
Henry Herbert Wills Physics Laboratory. Endowment (RF 30083)	250,000.00	242,812.50
University of California, Berkeley		
Program for graduate training and research in public administration (RF 29108)	165,750.00	36,000.00
University of Chicago, Illinois		
Assistance in connection with research program in the social sciences (LS 813)	75,606.96	34,086.31
University of Leipzig		
Institute of Physiological Chemistry. Research aid (RF 31016)	67,000.00	2,376.46
University of London, England		
University College. Endowment of department of zoology and comparative anatomy (RF 31120)	370,000.00	.....
University College Hospital Medical School. Professorship in clinical research (RF 31119)	200,000.00	.....
University of Minnesota, Minneapolis		
Establishment of a laboratory for rock analysis (RF 29058)	9,000.00	2,531.72
University of North Carolina, Chapel Hill		
Research professorship in economic theory (LS 974)	20,000.00	.....
University of Oslo, Norway		
Institute of Theoretical Astrophysics. Equipment (RF 31035)	15,000.00	.....
University of Paris, France		
Department of parasitology. Support (RF 30065)	25,000.00	.....

University of Szeged, Hungary		
Departments of science and medicine		
Maintenance (RF 31026)	$36,000.00	$14,108.35
Scientific equipment (RF 31025)	119,000.00	.....
University of Washington, Seattle.		
Chartering and maintaining boat for oceanographic work (RF 30079)	50,000.00	10,000.00
Yale University, New Haven, Connecticut		
Institute of Human Relations		
Development of psychiatry and care of individuals under observation (RF 29002)	850,000.00	82,697.99
Maintenance of an anthropoid breeding station, Orange Park, Florida (RF 29090)	340,000.00	55,000.00
Research Programs		
Alaska Agricultural College and School of Mines, Fairbanks		
Study of the aurora (RF 29118)	10,000.00	1,532.43
Columbia University, New York City		
General research fund for development of advanced humanistic work (RF 31051)	75,000.00	.....
Research and field work at Greenwich House (RF 29070)	7,500.00	4,794.34
Research in medical mycology (RF 29027)	24,910.01	8,708.13
Research in the social sciences (LS 574, 575, 949, 950, RF 30036, 30037)	717,774.68	46,400.00
Studies of the common cold (RF 31086)	45,000.00	15,000.00
Study of compensation for automobile accidents (RF 29071, 30091)	50,290.45	.....
Studies at the School of Tropical Medicine, University of Porto Rico, on nutrition in Porto Rico (RF 30089)	36,000.00	12,000.00
Cornell University Medical College, New York		
Studies of the rôle of the glands of internal secretion in relation to growth and inheritance (RF 30006)	237,500.00	24,809.64
Hanover Polytechnic School, Germany		
Scientific equipment for research in inorganic chemistry (RF 31151)	19,720.00	.....
Harvard University, Cambridge, Massachusetts		
Geophysical research (RF 31134)	50,000.00	.....
Research in anthropology (RF 31042)	75,000.00	10,000.00
Research in economics (RF 29068)	113,174.18	30,000.00
Research in industrial hazards (RF 30031)	860,773.13	66,560.71

EXHIBIT D—*Continued*

	APPROPRIATIONS	1931 PAYMENTS
UNIVERSITIES AND OTHER EDUCATIONAL INSTITUTIONS—*Continued*		
Research Programs—*Continued*		
Harvard University—*Continued*		
Research in international law (RF 29048)	$54,542 41	$23,166 62
Research in physiology and physical chemistry (RF 30028)	175,000 00	25,000 00
Survey of crime and criminal justice (RF 30077)	10,000 00	7,500 00
Harvard University and Radcliffe College		
Research in the field of international relations (LS 485,993)	462,499.52	49,038.56
Iowa State College of Agriculture and Mechanic Arts, Ames		
General research fund in the natural sciences (RF 31077)	30,000.00	2,500 00
Johns Hopkins University, Baltimore, Maryland		
Biological research (RF 29155, 30005)	362,500.00	48,750.00
General research fund in the humanities (RF 30035)	90,000.00	20,000.00
Research and graduate work in the department of chemistry (RF 29101)	30,000.00	19,992.50
Study of civil justice (RF 31090)	10,000 00	
Study of obstetrical records (RF 29041)	29,400.00	4,542 06
London School of Economics and Political Science, England		
Research fund (LS 994)	60,561.25	
Massachusetts Institute of Technology, Cambridge		
General research fund for physics, chemistry, geology, and biology (RF 31050)	170,000 00	20,000 00
McGill University, Montreal, Canada		
Development of research in the social sciences (RF 30107)	110,000 00	15,000.00
Development of research in surgery (RF 29003)	45,000.00	25,000 00
Peiping Union Medical College, China		
Field studies in kala-azar (CM 2733)	1,335.12	
Human paleontological research in Asia (RF 29047)	51,681.65	30,094 20
Princeton University, New Jersey		
Research work of the department of geology (RF 29079)	100,000.00	

Royal Joseph Technical University, Budapest, Hungary		
Support of investigations of problems in the chemistry of carbohydrates (RF 30074)	$5,000.00	$3,500.00
Stanford University, California		
Development of program in the social sciences (LS 786, 787)	75,000.00	50,000.00
General research fund in the medical sciences (RF 30070)	85,000.00	22,500.00
Tulane University of Louisiana, New Orleans		
Department of middle American research. Support (RF 31043)	45,000.00	7,500 00
University of California, Berkeley		
Study of chemical aspects of vitamins and hormones (RF 29099)	30,000.00	10,000.00
University of Chicago, Illinois		
Aid to social science facilities (LS 810, RF 31133)	428,571.96	22,462.43
Determination of velocity of light in vacuo (RF 29031)	5,462.46	5,462.46
General research fund in the humanities (RF 31132)	100,000.00	.....
Program of local community research (LS 811, 812, RF 31131)	401,611.36	67,315.44
Publication of volumes on comparative civic education (LS 959)	3,307.69	.....
Research program of the department of anthropology (RF 29069)	52,500.00	15,000.00
Research work in the biological sciences (RF 29083)	105,000.00	28,591.05
Studies in comparative philology (RF 29135)	50,000.00	6,203.52
University of Denver, Colorado		
Bureau of Business and Social Research. Support (LS 610, RF 31076)	23,544.49	13,544.49
University of Freiburg im Breisgau, Germany		
Equipment for research work in physical chemistry (RF 30093)	25,000.00	6,266.02
University of Hawaii, Honolulu		
Sociological research (RF 29051, 31096)	55,000.00	10,000.00
Study of biological, mental, and social conditions of people of Hawaii (ME 21231)	20,000.00	20,000.00
University of Leiden, Netherlands		
Purchase and endowment of a photographic telescope (RF 30021)	110,000.00	18,223.50
University of Minnesota, Minneapolis		
Economic and social study of unemployment (RF 31004)	75,000.00	35,000.00
General research fund (RF 31007)	275,000.00	42,500.00

EXHIBIT D—*Continued*

	APPROPRIATIONS	1931 PAYMENTS
UNIVERSITIES AND OTHER EDUCATIONAL INSTITUTIONS—*Continued*		
Research Programs—*Continued*		
University of Munich, Germany		
Institute of Physics. Study of electron movements and related problems (RF 31015)	$5,000.00	$2,500.00
University of North Carolina, Chapel Hill		
Program in the social sciences (LS 792)	50,000.00	35,000.00
Research in the natural sciences (RF 29114)	10,000.00	10,000.00
University of Oslo, Norway		
Research program of the Economic Institute (RF 31122)	50,000.00	.....
University of Pennsylvania, Philadelphia		
Excavations at Ur of the Chaldees (RF 31078)	22,500.00	6,500.00
General research fund (RF 30094)	80,000.00	20,000.00
Study of living tissues (RF 29064)	66,054.60	.....
Wharton School of Finance and Commerce. Development of work in the department of industrial research (LS 839)	10,000.00	.....
University of Rochester, New York. School of Medicine and Dentistry		
Development of a habit-training clinic in the department of psychiatry (RF 29063)	94,875.00	23,375.00
General research fund (RF 29026)	65,000.00	20,000.00
Special research in dental pathology (RF 29040, 29123, 31018)	38,198.94	6,262.71
Studies of the effects, in health and disease, of heat produced by radiation (RF 30090)	15,000.00	9,189.01
University of Stockholm, Sweden		
General research program in the social sciences (RF 31034)	30,000.00	6,000.00
Increased facilities for investigations in zoophysiology (RF 31149)	12,200.00	.....
University of Texas, Austin		
Development of program in the social sciences (LS 790, 791)	85,000.00	47,500.00

University of Toronto, Canada		
Department of pediatrics. Research (RF 29028)	$24,000.00	$8,000.00
University of Uppsala, Sweden		
Institute of Physical Chemistry. Additional research assistants (RF 31150)	12,000.00	.....
University of Vermont, Burlington		
Survey of rural life in Vermont (LS 942)	26,665.78	15,201.66
University of Vienna, Austria		
Purchase of a liquid air machine (RF 30072)	7,500.00	7,500.00
Second Institute of Physics. Research on disintegration of atoms; purchase of spectrograph (RF 30073)	5,000.00	3,000.00
University of Virginia, Charlottesville		
Program of research in the social sciences (LS 707, RF 30106)	111,630.56	45,278.02
University of Warsaw, Poland		
Institute of Physics. Research apparatus (RF 31027)	50,000.00	7,239.40
Vanderbilt University, Nashville, Tennessee		
School of Medicine. General research fund in the medical sciences (RF 31136)	250,000.00	.....
Washington University, St. Louis, Missouri		
General research fund (RF 30038)	200,000.00	50,000.00
Yale University, New Haven, Connecticut		
Experiments in photographic work with children (LS 711)	15,751.28	15,751.28
Research in psychology, child development, and social sciences (LS 710, RF 29008)	1,315,015.28	190,000.00
School of Law. Assistance for investigations (LS 900)	33,000.00	22,000.00
School of Medicine		
General research fund (RF 29147)	147,500.00	47,500.00
Special research in dental pathology (RF 29120, 31103)	37,500.00	25,000.00
Support of excavations at Jerash and Dura-Europos (RF 31047)	30,000.00	.....
Land and Buildings		
Chulalongkorn University, Bangkok, Siam		
Addition to pathology building and a building for the School of Nursing (RF 30023)	138,000.00	.....
London School of Economics and Political Science, England		
Erection and equipment of library building (RF 31029)	300,000.00	.....
Purchase of land for expansion of school plant (RF 31028)	150,000.00	.....

EXHIBIT D—*Continued*

	APPROPRIATIONS	1931 PAYMENTS
UNIVERSITIES AND OTHER EDUCATIONAL INSTITUTIONS—*Continued*		
Land and Buildings—*Continued*		
Peiping Union Medical College, China		
Buildings and fixed equipment (CM 2646, 2782, ME 21245, 21248)	$1,559.35	$1,548.96
Shanghai. Purchase of land for a medical school (CM 2269)	2,031.65	.....
Shantung Christian University, Tsinan, China		
Equipment for science building (CM 2727)	4,777.38	1,175.00
Loss on exchange on remittances for School of Medicine buildings (CM 2693)	30,000.00	.....
State Institute of Public Health, Prague, Czechoslovakia		
Building and equipment for School of Nurses for Public Health and Social Welfare (RF 30082)	100,000.00	.....
University of Breslau, Germany		
Building of neurological laboratory (RF 30081)	50,000.00	.....
University of California, Berkeley		
Scripps Institution of Oceanography, La Jolla. Funds for increased laboratory facilities (RF 30017)	40,000.00	40,000.00
University of Geneva, Switzerland		
Station of Experimental Zoology. Construction and equipment (RF 31036)	40,000.00	.....
University of Lyon, France		
Faculty of Medicine and Pharmacy. Land and building (ME 21242, 28138, RF 29152)	426,364.36	177,019.96
University of Munich, Germany		
Institutes of Zoology and Physical Chemistry. Building and equipment (RF 30022)	372,000.00	206,635.63
University of Nancy, France		
Institute of Hygiene. Building improvements (ME 28019)	7,804.45	2,826.41
University of Oslo, Norway		
Institute of Theoretical Astrophysics. Construction and equipment (RF 31035)	90,000.00	.....

University of Oxford		
Development of the Bodleian and other libraries at Oxford (RF 31121)	$2,300,000.00	$ .....
University of the Philippines, Manila		
Graduate School of Hygiene and Public Health. Enlargement of building (RF 30055)	147,518.75	124,200.00
University of Sydney, Australia. Medical School		
Building of clinical laboratory (RF 30011)	500,000.00	97,200.00
University of Stockholm, Sweden		
Construction of a social science building (RF 31033)	100,000.00	7,090.19
Greenhouse for departments of biochemistry and plant physiology (RF 31106)	16,000.00	.....
University of Washington, Seattle		
Building and equipment of oceanographic laboratory (RF 30079)	200,000.00	159,688.60
Yale University		
Establishment of an anthropoid experiment station at Orange Park, Florida (RF 29090, 30001)	15,000.00	.....
RESEARCH INSTITUTIONS AND ORGANIZATIONS		
Medical Science Education		
China Medical Association, Shanghai. General budget (CM 2770)	9,177.71	2,345.20
Social Science Education		
Laboratory of Anthropology, Santa Fe. Support of field training course in anthropology (RF 29116)	60,000.00	12,450.29
Social Science Research Council, Inc. Instruction in agricultural economics (RF 30104)	40,000.00	3,138.37
General Education		
Canadian National Committee for Mental Hygiene, Toronto		
Development of training centers for advanced students (RF 30088)	50,000.00	10,000.00
General Development		
American Historical Association, Washington, D. C.		
Support of the International Committee of Historical Sciences (LS 564,951)	25,487.93	5,851.28
American Schools of Oriental Research, Baghdad and Jerusalem		
Current expenses (RF 29134)	215,000.00	40,000.00
Endowment (RF 29134)	250,000.00	11,666.66

EXHIBIT D—*Continued*

	APPROPRIATIONS	1931 PAYMENTS
RESEARCH INSTITUTIONS AND ORGANIZATIONS—*Continued*		
General Development—*Continued*		
Australian National Research Council, Sydney		
Visiting professors (ME 21203)	$29,807.28	$2,379.33
Bermuda Biological Station for Research, Inc.		
Support of work (RF 31107)	12,000.00	.....
Brookings Institution, Inc., Washington, D. C.		
General endowment (LS 929)	2,000,000.00	.....
Support of research (LS 886, RF 31125)	337,500.00	75,000.00
Canton of Geneva, Switzerland. Department of Public Instruction		
Postgraduate Institute of International Studies. Maintenance (RF 29136)	765,000.00	.....
Economic Foundation, New York City		
National Bureau of Economic Research. Support (LS 930)	75,000.00	.....
Hungarian Biological Research Institute, Tihany		
Maintenance (RF 31061)	12,500.00	8,820.96
Institute for Comparative Research in Human Culture, Oslo		
General budget (LS 1006, RF 30086)	43,297.67	23,289.56
Institute of Economics and History, Copenhagen, Denmark		
General budget (LS 947, RF 30085)	24,000.00	12,000.00
Institute of Pacific Relations, Honolulu, Hawaii		
General program (RF 31080)	60,000.00	30,000.00
International Institute for the Study of African Languages and Cultures, London		
General budget (RF 31041)	250,000.00	12,500.00
Jean Jacques Rousseau Institute, Geneva		
General budget (RF 31002)	10,000.00	3,000.00
Long Island Biological Association, Cold Spring Harbor		
Work of the Biological Laboratory (RF 31105)	20,000.00	20,000.00
Marine Biological Stations, France		
Support of stations at Roscoff and Banyuls (RF 29021)	4,396.68	.....

National Bureau of Economic Research, New York City		
General budget (RF 29073)	$280,501.53	$48,520.21
National Institute of Public Administration, New York		
Endowment (RF 31060)	750,000.00	750,000.00
General budget (RF 31006)	37,500.00	37,500.00
National Medical Association of China, Shanghai		
Current expenses (ME 28068, RF 31075)	5,211.15	2,036.74
Research Institute of Experimental Biology, Copenhagen, Denmark		
Salary and expenses of Director (RF 30066)	27,000.00	26,827.65
Social Science Research Council, Inc., New York City		
General budget (LS 626,875)	405,000.00	55,000.00
Woods Hole Oceanographic Institution, Massachusetts		
Endowment (RF 30003)	1,000,000.00	1,000,000.00
Current expenses (RF 30004)	465,345.84	9,981.84
Research Programs		
American Council of Learned Societies, Washington, D. C.		
Researches in paleography (RF 29133)	68,798.47	12,543.88
Support of projects in the field of humanistic studies (RF 31129)	290,000.00	.....
American Law Institute, Philadelphia, Pennsylvania		
Preparation of a code of laws and rules relating to criminal procedure (RF 30029)	21,639.50	19,329.68
Study of law administration in the federal courts (RF 31083)	25,000.00	.....
Association for the Study of Negro Life and History, Washington, D. C.		
Research studies and publications (RF 30053)	21,149.00	7,036.62
Australian National Research Council, Sydney		
Anthropological studies (ME 21229, RF 31065, 31095)	108,006.98	24,886.07
Austrian Institute for Trade Cycle Research, Vienna		
Research program (RF 30087)	20,000.00	4,000.00
Behavior Research Fund, Chicago, Illinois		
General budget (RF 31111)	25,000.00	10,000.00
Bernice P. Bishop Museum, Honolulu, Hawaii		
Research in Polynesian anthropology (ME 21116)	12,600.00	10,000.00

EXHIBIT D—*Continued*

	APPROPRIATIONS	1931 PAYMENTS
RESEARCH INSTITUTIONS AND ORGANIZATIONS—*Continued*		
Research Programs—*Continued*		
Canadian National Committee for Mental Hygiene, Toronto		
Program of mental hygiene and social science research in Canadian universities (LS 943)	$87,565.62	$31,620.00
Council on Foreign Relations, New York City		
Research on American foreign policy (LS 850)	60,000.00	30,000.00
Dutch Economic Institute, Rotterdam, Netherlands		
Research program (RF 31046)	25,000.00	5,000.00
Economic Foundation, New York City		
International study of the history of prices (RF 29138)	236,544.83	54,931.29
Field Museum of Natural History, Chicago, Illinois		
Aid in securing photographs of types of botanical specimens (RF 29006)	5,000.00	5,000.00
Industrial Relations Counselors, Inc., New York		
Study of administrative procedure of employment exchanges (RF 31089)	16,000.00	.....
Unemployment insurance studies (RF 31011)	30,725.00	30,725.00
Institute for Comparative Research in Human Culture, Oslo, Norway		
Expedition to Kola Peninsula (LS 721)	35,000.00	.....
Institute for International Economics and Maritime Trade, Kiel, Germany		
Research program (RF 31063)	30,000.00	10,000.00
Institute for Psychiatric Research, Munich, Germany		
Research in neurohistology, serology, and biochemistry (RF 31045)	89,000.00	.....
Institute for Social and Political Sciences, University of Heidelberg, Germany		
Research in the social sciences (LS 984)	39,222.93	13,802.60
Institute of Pacific Relations, Honolulu, Hawaii		
General expenses (RF 31005)	30,000.00	30,000.00
Program of research in the social sciences (LS 995, RF 30084)	291,500.30	91,500.30
International Institute of Public Law, Paris, France		
Research program (RF 31001)	25,000.00	5,000.00

Kaiser Wilhelm Institute of Physical Chemistry and Electrical Chemistry, Berlin-Dahlem, Germany		
Special scientific apparatus (RF 30075)	$7,000.00	$2,805.36
Marine Biological Association of China, Amoy		
Support of a marine institute of biology (RF 31062, 31108)	3,000.00	1,145.75
Massachusetts Department of Mental Diseases, Boston		
Statistical and record study (RF 31082)	25,000.00	3,020.35
Study of the insane and the mentally defective (LS 957)	19,764.78	19,764.78
Massachusetts Society for Mental Hygiene, Boston		
Work in the field of mental disorders (RF 30032)	50,000.00	29,428.37
Medical Research Council, Great Britain		
Research in puerperal fever (RF 31044)	105,000.00	3,750.00
Research in virus diseases (RF 31153)	13,000.00	.....
National Committee for Mental Hygiene, New York		
Surveys in the care and treatment of mental diseases (ME 21105)	3,661.24	3,661.24
National Institute of Industrial Psychology, London		
Research program of institute (RF 30033)	20,000.00	10,000.00
National Research Council, Washington, D. C.		
Research in problems of sex (RF 31066)	150,000.00	16,806.02
National Research Fund, Washington, D. C.		
Scientific research (RF 30057)	400,000.00	.....
New Zealand. Department of Scientific and Industrial Research		
Work of the Apia Observatory (RF 31079)	10,000.00	2,500.00
Notgemeinschaft der Deutschen Wissenschaft, Berlin, Germany		
Anthropological study of the German population (RF 29137)	125,000.00	37,240.32
Research in the social sciences (LS 971)	5,118.95	.....
Research in international relations (RF 31135)	25,000.00	.....
Royal Anthropological Institute of Great Britain and Ireland, London		
General budget (RF 31110)	10,500.00	.....
Royal Institution of Great Britain, London		
Davy Faraday Research Laboratory. Endowment and maintenance (RF 30026)..	107,832.50	.....

EXHIBIT D—*Continued*

	APPROPRIATIONS	1931 PAYMENTS
RESEARCH INSTITUTIONS AND ORGANIZATIONS—*Continued*		
Research Programs—*Continued*		
Rumanian Institute of Social Science, Bucharest		
General administration and research program (RF 31094)	$22,500.00	$.....
Smithsonian Institution, Washington, D. C.		
Research in radiation (RF 29022)	300.00	.....
Social Science Research Council, Inc., New York City		
Conferences and planning (RF 30049, 31024, 31127)	277,500.00	21,526.86
General research projects (RF 31126)	225,000.00	.....
Grants in aid of research (RF 31128)	100,000.00	.....
Research planning in the field of international relations (RF 31049)	31,250.00	6,250.00
Research work (LS 876)	425,146.74	152,094.05
Trudeau Foundation, Trudeau, New York		
Research in tuberculosis (RF 30034)	42,500.00	10,000.00
Welfare Council of New York City		
Support of Research Bureau (LS 736, RF 29075, 31048)	290,000.00	98,750.00
Land and Buildings		
Hungarian Biological Research Institute, Tihany		
Construction of greenhouse (RF 31061)	12,500.00	7,056.76
Kaiser Wilhelm Gesellschaft		
Institutes of Cell Physiology and Physics, Berlin-Dahlem, Germany. Land, buildings, and equipment (RF 30027)	378,253.00	17,816.25
Marine Biological Association of the United Kingdom, Plymouth		
Addition to laboratory buildings and apparatus (RF 31013)	22,800 00	3,882.50
Woods Hole Oceanographic Institution, Massachusetts		
Building and other construction; boats and equipment (RF 30003)	549,900.00	549,900.00
Scientific instruments to be used on the transpolar submarine expedition (RF 31088)	10,000.00	10,000.00

SPECIAL COMMITTEES AND COMMISSIONS		
American Institute of Mining and Metallurgical Engineers, New York		
Mineral inquiry (RF 31019)	$15,000.00	$5,000 00
Cambridge University, England		
Expenses of commission visiting libraries in Europe, United States, and Canada (RF 30048)	10,720.83	2,607.72
Committee on Costs of Medical Care, Washington, D. C.		
General budget (CA 28380, RF 30052)	110,000 00	45,525.00
Committee on Grading of Nursing Schools, New York City		
General expenses (ME 21226)	5,000 00	5,000 00
National Institute for Public Administration, New York		
Commission on Old Age Security (RF 30092)	15,000 00	12,160.07
National Research Council, Washington, D. C.		
Work of the Committee on Drug Addiction (RF 31130)	150,000.00	
President's Conference on Unemployment, Washington, D. C.		
Study of economic changes (RF 30051)	50,000.00	50,000 00
President's Research Committee on Social Trends, Washington, D. C.		
Research on recent social changes (RF 29154)	460,924.66	233,520.41
University of Oxford, England		
Commission to visit libraries in Europe, United States, and Canada (RF 30016)	19,082.03	13,486.18
FELLOWSHIPS AND GRANTS IN AID		
American Council of Learned Societies, Washington, D. C.		
Fellowships in the field of humanistic studies (RF 29084, 31055)	168,779.74	43,274 45
Grants in aid, support of projects, and administration (RF 29085, 31056)	265,758.37	103,026.10
Researches in the humanistic sciences by American scholars (LS 972)	5,000.00	5,000.00
American School of Classical Studies at Athens, Greece		
Fellowships in archeology in connection with the excavation of the Athenian Agora (RF 29019)	22,200 00	10,600.00
Australian National Research Council, Sydney		
Fellowships in anthropology (ME 21184)	1,343.11	104.88

EXHIBIT D—*Continued*

	APPROPRIATIONS	1931 PAYMENTS
FELLOWSHIPS AND GRANTS IN AID—*Continued*		
Developmental Aid		
China. Medical and natural sciences (RF 30040, 31021)	$12,024.44	$7,081.09
Europe. Constructive program of aid to medical education without capital expenditure (ME 28369)	18,428.09	3,520.05
Fellowships administered by The Rockefeller Foundation		
Humanities (RF 29105, 29142)	51,700.00	.....
Medical sciences (ME 28375, RF 29066, 29140, 30099, 31141)	648,864.51	147,251.88
Natural sciences (ME 28151, RF 29077, 29100, 30039, 30042, 31023, 31142)	606,152.93	159,598.34
Nursing (ME 28373, 28376, RF 29149, 30100, 31143)	166,160.85	44,942.69
Social sciences (LS 997, RF 29141, 31057)	686,946.20	183,190.84
Hungarian Scholarship Council, Budapest		
Foreign scholarships in medicine (RF 29111)	16,341.75	8,500.69
Laboratory aid in Europe		
Equipment and supplies for medical departments and returned foreign fellows in the medical sciences (ME 21206)	6,317.42	968.88
London Hospital, England		
Development of neurosurgery (RF 31073)	40,000.00	6,198.53
Medical Research Council, Great Britain		
Fellowships in the medical sciences (ME 28126)	23,915.55	13,876.08
National Committee for Mental Hygiene, New York City		
Fellowships in mental hygiene (RF 29148)	13,919.64	.....
National Research Council, Washington, D. C.		
Fellowships		
Biological sciences (RF 29004, 29005, 29132, 31053)	561,893.09	166,150.02
Medical sciences (ME 21098, 21232, RF 29060, 31054)	197,913.39	55,308.61
Physical sciences (ME 21234, RF 29131, 31052)	574,896.55	154,958.71
Research aid fund (RF 30105)	100,000.00	75,000.00

Notgemeinschaft der Deutschen Wissenschaft, Berlin		
Fellowships in the medical sciences (ME 21181, 28127)	$36,934.74	$18,704.42
Peiping Union Medical College, China		
Foreign fellowships for staff (ME 28123, RF 29128)	76,467.66	31,428.84
Fellowships in Peiping Union Medical College for residents of China, Japan, and the Far East (ME 28124, RF 29128)	34,178.17	7,793.03
Philippine Islands. Research in genetics (RF 31152)	5,000.00	.....
Queen's University, Belfast, Northern Ireland		
Development of the medical sciences (RF 31069)	9,000.00	2,637.16
Research Aid Funds		
Humanities (RF 30008)	18,788.25	2,750.00
China		
Medical and natural sciences (RF 30041, 31022)	19,324.34	8,601.74
Europe		
Medical sciences (RF 29024, 29127, 30097, 31139)	416,290.02	105,892.40
Natural sciences (RF 29025, 31067, 31140)	76,158.42	10,295.93
Social sciences (RF 30007)	22,027.80	1,892.68
Social Science Research Council, Inc., New York City		
Graduate fellowships in agricultural economics and rural sociology (LS 910)	89,749.33	33,890.11
Fellowships in the social sciences (LS 500, RF 29139, 31109)	328,894.67	71,462.21
St. Bartholomew's Hospital Medical College, London		
Development of pediatrics (RF 31072)	12,750.00	3,282.85
Trinity College, Dublin, Irish Free State		
Development of the medical sciences (RF 31071)	23,000.00	5,023.97
University College, Dublin, Irish Free State		
Development of the medical sciences (RF 31070)	23,000.00	7,186.22
University of Padua, Italy		
Institute of Histology and Embryology. Research work (RF 31074)	10,600.00	.....
University of Pennsylvania, Philadelphia		
Henry Phipps Institute for the Study, Treatment, and Prevention of Tuberculosis		
Developing and testing a stereofluoroscope (RF 31037)	4,000.00	2,979.75

EXHIBIT D—*Continued*

	APPROPRIATIONS	1931 PAYMENTS
FELLOWSHIPS AND GRANTS IN AID—*Continued*		
University of Turin, Italy		
Institute of Anatomy. Research in problems of growth (RF 31068)	$10,540.00	$.....
Visits of individuals and commissions (ME 28371, RF 30101)	41,262.67	7,129.22
MISCELLANEOUS		
Abraham Lincoln Foundation, Dresden, Germany		
Continuance of program in humanistic studies (RF 30096)	45,000.00	15,000.00
American Psychological Association, Princeton, New Jersey		
Psychological Abstracts (LS 694)	42,845.45	7,702.93
American School of Classical Studies at Athens, Greece		
Establishment of a museum of antiquities on the Island of Lesbos (RF 31037)	14,000.00	.....
American Society of Civil Engineers, New York City		
Publication of earthquake investigations (RF 31104)	6,000.00	.....
Association of Community Chests and Councils, New York City		
Development and coordination of effective relief measures (RF 31085)	75,000.00	75,000.00
Bibliographical Society of America, Buffalo, New York		
Expenses of securing subscriptions to the Catalogue of Printed Books of the British Museum (RF 29088)	1,000.00	360.93
Bibliothèque Nationale, Paris, France		
Collections of serial publications (RF 30046)	45,007.48	20,007.48
British Museum, London		
To enable the museum to offer to American libraries at a discount subscriptions to the new edition of the Catalogue of Printed Books (RF 29086, 30076)	97,000.00	.....
Additional service in connection with the new edition of the Catalogue of Printed Books (RF 29087)	9,400.00	1,166.40
Bulletins and Reprints (RF 29124, 30098, 31154)	37,110.23	6,888.61
Encyclopaedia of the Social Sciences		
Expenses of production and distribution (RF 30012, 31091, 31137)	260,931.19	91,251.57

Hospital and Clinic Service, United States		
Research and teaching (ME 21211, RF 29122)	$5,919.86	$2,204.34
Hospitals in China		
American Board of Commissioners for Foreign Missions		
Tehchow. Maintenance (CM 2784)	3,043.34	.....
Board of Foreign Missions of the Presbyterian Church in the United States		
Changteh. Maintenance (CM 2781)	7,317.77	760.87
Chefoo. Maintenance (CM 2780)	4,500.00	2,000.00
Paotingfu. Maintenance (CM 2779)	3,500.00	2,000.00
Board of Missions of the Methodist Episcopal Church, South		
Soochow. Maintenance (CM 2764)	8,760.00	6,295.00
Church of Scotland Foreign Mission Committee		
Ichang. Maintenance (CM 2719)	750.00	.....
Domestic and Foreign Missionary Society of the Protestant Episcopal Church in the United States		
Anking. Maintenance (CM 2701)	1,000.00	1,000.00
Foreign Mission Board of the Southern Baptist Convention		
Yangchow. Maintenance (CM 2765)	346.25	.....
University of Nanking Hospital		
Maintenance (CM 2763)	9,328.14	1,410.00
United Christian Missionary Society		
Luchowfu. Maintenance (CM 2785)	4,372.50	.....
Nantungchow. Maintenance (CM 2218)	6,392.56	2,862.50
Humanistic Studies in Europe (LS 919)	8,873.61	.....
League of Nations		
Publication of monetary and banking laws (RF 29076)	40,000.00	.....
Study of the problem of double taxation, by the Fiscal Committee (RF 30030)	90,000.00	13,815.10
Library of the Society of Physicians, Vienna, Austria		
Medical literature (ME 21153)	531.45	257.47
Missions institutions and medical schools in China		
Loss in exchange on Foundation appropriations (CM 2503)	15,000.00	.....

EXHIBIT D—*Continued*

		APPROPRIATIONS	1931 PAYMENTS
MISCELLANEOUS—*Continued*			
National Academy of Sciences, Washington, D. C.			
Work of the Committee in Aid of Research Publications (RF 31058)		$60,000.00	$20,700.00
National Research Council, Washington, D. C.			
Biological Abstracts (ME 21228, RF 30108)		165,874.84	77,423.73
Society of the Friends of the Bibliothèque Nationale, Paris			
Expenses of printing its General Catalogue (RF 29089)		10,000.00	1,000.00
Social Science Research Council, Inc.			
Social Science Abstracts (LS 877)		346,055.86	76,753.83
Unemployment Relief			
Demonstration of a plan for family food production in connection with industrial employment (RF 31059)		25,000.00	17,500.00
New York City Unemployment Relief			
1930–31 (RF 30095)		500,000.00	500,000.00
1931–32 (RF 31114, 31115)		750,000.00	.....
University of Oxford, England			
Preliminary studies in connection with the Bodleian Library (RF 29097)		25,000.00	4,124.08
PUBLIC HEALTH			
International Health Division, Rockefeller Foundation			
For work in prior years (See Exhibit E)	$2,480,604.17		
For work in 1931 (See Exhibit E)	2,829,214.00		
		5,309,818.17	2,572,244.96
For work in 1932 (RF 31144)		2,729,214.00	.....
Revolving Fund. To provide working capital for the International Health Division (RF 29093)		200,000.00	.....
Central Institute of Hygiene of the Turkish Republic, Angora			
Construction, installation, and equipment of a Service School of Hygiene (RF 29010)		100,000.00	.....

Development of child health measures in county health programs in cooperation with United States Public Health Service (RF 29107)	$38,786.96	$28,578 00
Institute of Hygiene, Cluj, Rumania		
Additional construction and remodeling (RF 31116)	6,110.00	.
Institute of Public Health, Sofia, Bulgaria		
Land, building, and equipment (RF 30059)	58,289.31	.
Institute of Hygiene and Public Health, Rome		
Buildings and equipment (RF 30025)	733,631.25	243,097.83
Irish Free State		
Establishment of a national public health laboratory (RF 31118)	105,000.00	.....
League of Nations, Health Organization		
Epidemiological intelligence, public health statistics, public health documentation, international interchange of public health personnel (RF 29092)	723,975.00	138,935 82
Nervous and Mental Diseases Hospital, "Socola," Jassy, Rumania		
Construction of a station for malaria studies (RF 31117)	7,800.00	....
Tuberculosis Study Clinic, Kingston, Jamaica		
Construction of a wing for x-ray work (RF 30060)	4,000.00	3,964 14
University of Toronto, Canada		
School of Hygiene. Endowment (RF 31038)	600 000 00	600,000 00
GENERAL *		
Agricultural Club Work		
Administration (RF 29080, 30045, 31008)	11,966.24	7,766.86
Finland (RF 29082, 30044)	42,845.07	14,521 81
Sweden (RF 29081, 30043)	31,999.13	19,375 09
American Association for Adult Education, New York City		
Budget for the National Council of Parent Education (LS 927, 928)	17,415.70	15,754 33
American Association of Museums, Washington, D. C.		
Survey of educational work (LS 913)	1,157.48	533 45
Trailside museums in national parks (LS 912)	35,965.25	22,392.75

*These appropriations, while administered by The Rockefeller Foundation under the terms of the consolidation agreement, represent items which would not, in general, be included in the present program of the Foundation.

EXHIBIT D—*Continued*

	APPROPRIATIONS	1931 PAYMENTS
GENERAL—*Continued*		
American Association of University Women, Washington, D. C.		
Publication fund (LS 664)	$443.16	$.....
Work of educational secretary (LS 663)	5,000.00	5,000.00
American Home Economics Association, Washington, D. C.		
Child study and parent education center (LS 823)	15,338.34	15,338.34
American Library Association, Chicago, Illinois		
Publication of list of foreign government serials (LS 756, RF 31084)	7,957.03	Cr. 477.84
American Library in Paris		
General budget (RF 29098)	17,500.00	12,500.00
Boy Scouts of America, New York City		
Work among special racial groups (LS 970)	11,716.55	10,872.71
Revolving fund for benefit of magazine, *Boy's Life* (LS 560)	49,000.00	.....
Child study fellowship program (LS 918)	6,485.31	416.12
Cleveland Foundation, Cleveland, Ohio		
Child study and parental education center (LS 1007)	12,000.00	.....
Commission on Interracial Cooperation, Atlanta, Georgia		
General budget (LS 999)	323,333.36	34,973.95
Connecticut College for Women, New London, Connecticut		
Study of ethnic factors of community life (RF 29104)	2,522.65	2,522.65
East Harlem Nursing and Health Service, Inc., New York City		
General budget (LS 937, RF 31155)	12,325.00	4,735.00
Nursing and health demonstration (RF 30068, 31100)	69,958.34	36,500.00
Fisk University, Nashville, Tennessee		
Teaching and equipment in field of the social sciences (LS 826)	54,730.44	28,338.16
Research work in the social sciences (LS 827, RF 30061, 31064)	37,666.80	23,566.80
Georgia State College of Agriculture and Mechanic Arts, Athens, Georgia		
Child study and parent education center (LS 856, 857)	7,282.35	5,625.00

Girl Scouts, Inc., New York City		
General budget (LS 925)	$1,500.00	$.....
Research Bureau (LS 842)	13,125.00	.....
Great Smoky Mountains Fund, Washington, D. C.		
Expense of Chase National Bank in administering funds (RF 30103, 31138)	1,500.00	1,000.00
Harvard University, Cambridge, Massachusetts		
Purchase of Bayer collection of Philippiniana (LS 638)	50,000.00	....
Howard University, Washington, D. C.		
Subscriptions to publications (LS 899)	175 57	175 57
Library material in field of social science (LS 898)	3,479.99	2,475.86
Aid to law library (LS 897)	2,400.82	1,380.77
Institute of International Education, New York City		
General budget (LS 911)	170,000.00	24,000 00
Iowa State College of Agriculture and Mechanic Arts, Ames		
Work in child study and parent education (LS 906)	20,074 04	. . .
Jean Jacques Rousseau Institute, Geneva, Switzerland		
General budget (LS 893)	7,670 70	7,670.70
Joint Vocational Service, Inc., New York City (For social workers and public health nurses)		
Administrative expenses (LS 742, RF 31092)	16,200 00	5,400.00
League of Red Cross Societies, Paris, France		
Budget of Junior Red Cross Division (LS 895, RF 30067)	16,089 79	7,500.00
McGill University, Montreal, Canada		
Research facilities and assistance in study of child life (LS 532)	4.14	.
Monmouth County (New Jersey) Organization for Social Service		
General budget (LS 687)	6,707.94	5,850.00
National Urban League, New York City		
General budget (LS 1005)	15,000.00	12,588.38
Neighborhood Teacher Association, New York City		
General budget (LS 938)	7,702.75	7,702 75
New York Society for the Experimental Study of Education, New York City		
Research in primary adult education (LS 939)	367.50	367 50

EXHIBIT D—*Continued*

	APPROPRIATIONS	1931 PAYMENTS
GENERAL—*Continued*		
North Carolina State Board of Charities and Public Welfare, Raleigh		
Study of school attendance in North Carolina (LS 892)	$1,538.70	$1,538 70
Peiping Union Medical College, China		
Allowance for widow of staff member (RF 29034)	18,198.67	2,376 99
People's Institute, New York City		
General budget (LS 761)	5,000 00	
Playground and Recreation Association of America, Inc., New York City		
General budget (LS 1000)	400,000 00	50,000 00
Program of introducing music into small towns (LS 915)	1,873 91	255.86
Recreational adviser to city administration of New York (LS 668)	4,279 51	1,263 42
Study of community music (LS 771)	7,947.12	2,497 46
Regents of the University of the State of New York, Albany		
Work in child study and parent education (LS 902)	30,000 00	10,000 00
Riverside Church, New York City		
Memorial in name of Laura Spelman Rockefeller (LS 977)	1,000,000 00	1,000,000.00
Interest for year 1931 on appropriation (LS 977, RF 31009)	50,000 00	20,833 33
Russian Zemstvos and Towns Relief Committee, Paris, France		
General program of relief (LS 804, RF 29054)	10,000 00	10,000 00
Scholarships in the social sciences and social work for American negroes (LS 965)	11,077 00	860 00
Society of the New York Hospital		
Erection and maintenance of building for Lying-In Hospital (LS 966)	1,444,000 00	922,281 90
State Board of Public Welfare of the Commonwealth of Virginia, Richmond		
Work of the Division of County and City Organization (LS 840)	7,500.00	7,500 00
State Charities Aid Association, New York		
Stabilizing its county child welfare service (LS 926)	9,868.72	8,912.37
Study of mental disease in New York State (LS 958)	16,149 19	16,149 19
State of California. Department of Education, Sacramento		
Work in child study and parent education (LS 986)	7,500.00	

State University of Iowa, Iowa City		
Work in child study and parent education (LS 904, 905, 931, 932)	$619,135.73	$112,372.61
Teachers College, Columbia University, New York City		
Maintenance of Child Development Institute (LS 998)	325,000.00	100,000.00
University of California, Berkeley		
Maintenance of Institute of Child Welfare (LS 829)	152,379 62	51,943 74
University of Chicago, Illinois		
Budget of university press (LS 757)	8,473 31	5,000.00
University of Cincinnati, Ohio		
Work in child care and parent education (LS 894)	10,179 50	9,618.66
University of Minnesota, Minneapolis		
Work in child study and parent education (LS 908, 909, 933, 934)	478,793 83	83,793 83
University of North Carolina, Chapel Hill		
Budget of university press (RF 30047)	12,500 00	8,750 00
University of Toronto, Canada		
Development of child research and parent education (RF 30054)	165,000.00	35,000.00
Vocational Service for Juniors, New York City		
Training program for counselors (LS 948)	35,881 29	15,457 96
Y. M C. A. College, Chicago, Illinois (LS 754)	28,481 70	15,277 31
Y. M C. A and Y. W. C. A. International Survey Committee, New York City (RF 29035)	62,698 86	59,019 26
ADMINISTRATION		
Executive offices		
1930 (RF 2824, 29037, 29115, 29144, 30009, 30010, 30078)	114,271 84	26,809 24
1931 (RF 30109)	753,305 00	639,023 74
1932 (RF 31145)	743,750.00	
Treasurer s office		
1930 (RF 30015, 30069)	10,319.62	8,043.43
1931 (RF 30110)	35,751.96	25,412.64
1932 (RF 31146)	36,901.42	

EXHIBIT D—*Continued*

		APPROPRIATIONS	1931 PAYMENTS
ADMINISTRATION—*Continued*			
Paris office			
1930 (RF 29145)		$31,488.47	$20,469.15
1931 (RF 30111)		98,400.00	68,163.37
1932 (RF 31147)		99,100.00	.....
Peiping office			
1930 (RF 29146)		7,794.37	2,102.70
1931 (RF 30112)		10,550.00	3,701.47
1932 (RF 31148)		9,650.00	.....
Surveys by others than officers (RF 29096, 31003)		45,000.00	3,761.59
Total Appropriations		$62,345,913.90	
Unused balances of appropriations allowed to lapse			
Rockefeller Foundation	$566,805.50		
International Health Division	271,537.72	838,343.22	
Total Net Appropriations and Expenditures		$61,507,570.68	$17,477,225.02
REFUNDS			
Building occupied by Paris office (RF 21151)	$1,313.21		
Siam, hookworm work, 1928 (IH 23685)	9.76		
	$1,322.97		

EXHIBIT E

INTERNATIONAL HEALTH DIVISION
DESIGNATIONS AND PAYMENTS

LOCAL (FULL-TIME) HEALTH DEPARTMENTS	PRIOR DESIGNATIONS	1931 DESIGNATIONS	1931 PAYMENTS
United States			
Alabama			
1929 and 1930. Aid to unorganized counties (IH 28109)	$7,463.32	$.....	$3,136.75
1930–33. Epidemiological unit (IH 30019, 31137)	12,300.00	12,450.00	5,098.35
Arizona			
1930–31 (IH 30030)	6,250.00	.....	5,170.82
1931–32 (IH 30142, 31021-22)	.....	11,250.00	1,979.16
California			
1928–30 (IH 23693, 28232-35, 29051, 29100-03, 30143)	7,891.10	.....	5,687.02
1931 (IH 31048)	.....	3,000.00	.....
Colorado			
1930 (IH 29104)	125.00	.....	125.00
Georgia			
1930–31 (IH 29105–11, 30144)	18,336.19	.....	6,867.06
Idaho			
1930 (IH 29112, 29260)	1,781.25	.....	1,031.25
1931 (IH 30069-70)	.....	2,700.00	600.00
Indiana			
1930 (IH30023)	4,600.00	.....	.....
Iowa			
1929–31 (IH 28248, 29051, 29053, 29113)	6,728.04	.....	2,139.26
1931 (IH 30071, 31141)	.....	7,000.00	445.83
Kansas			
1930 (IH 29114–16, 30056–57)	6,905.20	.....	2,886.44
1931 (IH 30072–73, 31142)	.....	2,125.00	1,225.00

EXHIBIT E—*Continued*

	PRIOR DESIGNATIONS	1931 DESIGNATIONS	1931 PAYMENTS
LOCAL (FULL-TIME) HEALTH DEPARTMENTS—*Continued*			
United States—*Continued*			
Kentucky			
1930–33 (IH 29261)	$12,810.98	$	$7,223.06
Louisiana			
1930–31 (IH 29117–19, 30005)	1,766.12		1,497.28
Maryland			
1930 (IH 30024)	1,200.00		
1931–34 (IH 30145)	16,650.00		
Michigan			
1929–34 (IH 28266, 28278, 29039, 29045–49)	52,618.70		11,725.83
Mississippi			
1930–33 (IH 29120–32, 30146)	36,872.96		14,341.31
Missouri			
1930–32 (IH 29133–36, 30025–26)	17,025.00		4,950.00
Montana			
1929 (IH 29054)	900.00		900.00
1931 (IH 31005)		2,400.00	300.00
Nevada			
1930–32 (IH 30147)	2,500.00		
Oklahoma			
1930–33 (IH 29137–41, 30031)	6,566.67		775.00
1931 (IH 30074–75, 31143)		3,600.00	1,070.84
South Carolina			
1930–33 (IH 29142–52, 30006)	21,025.00		12,105.78
South Dakota			
1929 (IH 28419)	625.00		594.51

Tennessee			
1930–33 (IH 29099)	$20,195.48	$.....	$10,917.36
Texas			
1929–33 (IH 28341, 29073, 29153, 30032, 30152)	13,408.89	.....	4,505.64
1931–35 (IH 30076, 30151, 31144)	.....	10,500.00	1,833.34
Utah			
1929 (IH 28345–46)	1,250.00	.....	.....
Virginia			
1930–32 (IH 29098)	10,038.64	.....	6,996.66
West Virginia			
1930–33 (IH 29154-62, 30007)	24,709.17	.....	13,670.51
1931 (IH 31152)	.....	3,550.00	.....
Mississippi Flood Area 1927–32			
Arkansas	23,195.26	2,339.20	20,149.30
Kentucky	10,631.27	8,306.25	10,237.70
Louisiana	25,838.75	15,491.26	30,408.18
Mississippi	14,483.60	6,630.46	13,409.56
Missouri	717.86	.....	267.86
Tennessee	500.00	375.00	625.00
Training Station	13,951.56	.....	7,743.09
Unallocated balance (IH 23521, 31006, 31049)	.....	42,857.83	.....
Foreign Countries			
Austria			
1929–33 (IH 28391, 29069, 29263)	10,861.99	.....	5,662.49
1931 (IH 31051)	.....	6,425.00	.....
Brazil			
1930 (IH 29166)	1,818.68	.....	501.83
Bulgaria			
1928–30 (IH 29130–31, 29167)	2,300.00	.....	1,273.28
Canada			
Alberta			
1931 (IH 31023–24)	.....	13,000.00	.....

EXHIBIT E—*Continued*

	PRIOR DESIGNATIONS	1931 DESIGNATIONS	1931 PAYMENTS
LOCAL (FULL-TIME) HEALTH DEPARTMENTS—*Continued*			
Foreign Countries—*Continued*			
Canada—*Continued*			
British Columbia			
1929–30 (IH 29163, 30055)	$10,095.00	$.....	$4,595.00
1931 (IH 31003, 31153)	.....	4,110.00	2,175.00
Manitoba			
1930–33 (IH 30027)	3,958.36	.....	2,702.99
1931 (IH 31004)	.....	6,490.00	.....
Quebec			
1930–34 (IH 29052)	85,642.18	.....	33,450.02
1931 (IH 31053)	.....	12,937.50	.....
Saskatchewan			
1931–35 (IH 30158)	17,951.20	.....	2,461.86
China, Shanghai			
1929–31 (IH 28388–89, 29249–50)	7,584.05	.....	2,517.64
Czechoslovakia			
1928–32 (IH 23858, 28202–03, 29239–40, 30042)	11,520.00	.....	6,983.69
1931 (IH 31045)	.....	10,000.00	.....
France			
1928–31 (IH 23866, 28094, 28397–400, 28869, 29001, 29021, 29241–43, 30001, 30013–14, 30166)	23,485.28	.....	10,414.66
Guatemala			
International Health Division Office, Guatemala City			
1930 (IH 30041)	1,934.73	.....	1,651.18
1931 (IH 31011–12)	.....	2,060.00	255.00

Hungary			
1928-30 (IH 28013, 28077, 28403, 29002-03, 29068, 29168, 29244, 30003, 30015)	$35,743.58	$.....	$27,146.34
1931 (IH 30078-81)	.....	19,965.00	.....
India			
Burma			
1929-32 (IH 29060)	12,555.99	.....	4,760.95
Mysore State			
1929-31 (IH 28047, 29035, 30038)	1,958.50	.....	1,802.00
Travancore			
1931 (IH 30083)	.....	4,625.00	.....
Irish Free State			
1928-35 (IH 28043-44, 28210-11, 29245-46, 30050)	58,100.00	.....	8,365.35
Italy			
1931 (IH 30082, 31170)	.....	17,500.00	1,361.90
Jamaica			
1929-32 (IH 29233-36, 28167-70, 29080-81, 30160)	11,542.01	.....	6,087.93
Mexico			
1928-33 (IH 23897, 29007, 29030, 29165, 30060-63)	16,286.10	.....	6,201.93
1931 (IH 30077, 31158)	.....	8,445.00	1,347.33
Philippine Islands			
1929-32 (IH 29062)	7,551.61	.....	1,005.10
1931 (IH 31057)	.....	4,260.00	.....
Poland			
1929-34 (IH 28215, 29010, 29025-26, 29247-48, 29265)	32,944.55	.....	15,781.91
Porto Rico			
1929-32 (IH 28174-77, 29036, 29055-56, 29170-71, 29237-38, 30066)	5,087.07	.....	3,017.84
1931 (IH 30162)	.....	5,380.00	2,288.23
Rumania			
1931 (IH 30170)	.....	15,310.00	3,335.68
Spain			
1929-33 (IH 28133, 29251)	25,523.34	.....	4,081.22

EXHIBIT E—*Continued*

	PRIOR DESIGNATIONS	1931 DESIGNATIONS	1931 PAYMENTS
STATE HEALTH SERVICES			
Sanitary Engineering			
United States			
Arizona			
1931 (IH 31028)	$	$2,550 00	$
Indiana			
1929 (IH 28247, 29041)	2,610.00		2,573.37
North Dakota			
1929–30 (IH 28295, 29173)	399.68		352.04
1931 (IH 30084, 31032)		5,550.00	1,350 00
South Carolina			
1930–33 (IH 29174, 30150)	4,125.00		1,875 00
South Dakota			
1929–31 (IH 29077)	1,798.17		1,748 17
1931 (IH 31001)		4,600 00	567.50
Foreign Countries			
Greece			
1931 (IH 31015)		5,000.00	2,173.09
India			
1930–32 (IH 29061)	10,125.00		3,989.25
Poland			
1929–31 (IH 29022, 30016)	6,654.07		2,566.34
Public Health Laboratories			
United States			
Arizona			
1931 (IH 31002, 31026–27)		7,300.00	
Florida			
1930 (IH 29178)	675 00		675.00

Mississippi			
1929-30 (IH 29099, 29179)	$1,800.00	$.....	$1,800.00
1931 (IH 30085)	.....	1,575.00	1,125.00
South Carolina			
1929-30 (IH 28328, 29177)	37.50	.....	37.50
1931 (IH 30086, 31147)	.....	1,800.00	450.00
Tennessee			
1929-30 (IH 28441, 29051, 29176)	454.79	.....	440.62
1931 (IH 30087, 31036, 31151)	.....	4,875.00	1,411.85
Foreign Countries			
Colombia			
1929-30 (IH 28196, 29258)	561.00	.....	403.54
1931 (IH 30090)	.....	5,000.00	4,080.24
Hungary			
1930 (IH 29092)	15.58	.....	.....
Jamaica			
1931 (IH 30088)	.....	1,025.00	.....
Nicaragua			
1931 (IH 31061)	.....	600.00	430.82
Porto Rico			
1931 (IH 30089)	.....	1,000.00	999.65
Epidemiology			
United States			
Arizona			
1930-31 (IH 29180, 30030)	950.00	.....	712.50
1931 (IH 31025)	.....	6,450.00	.....
Georgia			
1931 (III 31029)	.....	9,000.00	1,502.37
Iowa			
1930 (III 29181)	550.00	.....	550.00
1931 (III 30092, 31140)	.....	3,800.00	1,100.00

EXHIBIT E—*Continued*

	PRIOR DESIGNATIONS	1931 DESIGNATIONS	1931 PAYMENTS
STATE HEALTH SERVICES—*Continued*			
Epidemiology—*Continued*			
United States—*Continued*			
Kentucky			
1929–30 (IH 28258, 29182)	$873.29	$.....	$873.29
1931 (IH 30093, 31145)	.....	11,500.00	2,726.64
Maryland			
1930–31 (IH 30004)	6,300.00	.....	4,629.46
1931 (IH 31063)	.....	5,500.00	.....
Michigan			
1930–33 (IH 30058)	14,700.00	.....	3,450.00
Mississippi			
1929–30 (IH 28285, 29183)	2,408.67	.....	2,408.67
1931 (IH 30094)	.....	4,740 00	2,047.21
Montana			
1929–30 (IH 29051, 29184)	887.57	.....	887.57
1931 (IH 30095, 31146)	.....	8,750 00	2,591.56
New York			
1930–32 (IH 30020, 30149)	1,150.00	.....	340.00
North Carolina			
1929 (IH 28292)	4,725.00	.....	4,725.00
North Dakota			
1929–30 (IH 28294, 29186)	675.00	.....	675.00
1931 (IH 30096, 31031)	.....	2,350 00	1,475.00
South Carolina			
1929–30 (IH 28326, 29187)	525 00	.....	525.00
1931 (IH 30097)	.....	1,200 00	400 00

South Dakota			
1929-30 (IH 28329, 29188)	$711 59	$	$711.59
1931 (IH 30098, 31000)		5,750 00	1,653.45
Tennessee			
1929-30 (IH 28340, 29051, 29189)	2,390 61		1,550.69
1931 (IH 30099, 31034, 31150)		13,375 00	4,000 72
Virginia			
1931 (IH 31064)		4,000 00	
Foreign Countries			
Austria			
1931-35 (IH 30163)		6,610.00	1,736.83
Canada			
British Columbia			
1929-30 (IH 29079)	768 75		
1931 (IH 31052)		3,000.00	
Quebec			
1931 (IH 31054)		8,156 25	
Denmark			
1930-31 (IH 29264)	8,113.63		6,658.33
Spain			
1929-31 (IH 28220, 29256)	3,140.01		831.13
Vital Statistics			
United States			
Massachusetts			
1930-33 (IH 30022)	7,400.00		2,989.54
Oregon			
1930-31 (IH 30029)	375.00		375.00
Tennessee			
1930 (IH 29190)	296.15		296.15
1931 (IH 30100, 31035, 31149)		6,325 00	760.58

EXHIBIT E—*Continued*

	PRIOR DESIGNATIONS	1931 DESIGNATIONS	1931 PAYMENTS
STATE HEALTH SERVICES—*Continued*			
Vital Statistics—*Continued*			
Foreign Countries			
Denmark			
1929-31 (IH 28395, 29253)	$708.76	$.....	$603.32
Rumania			
1930-34 (IH 30051, 30171)	29,255.00	.....	11,764.18
Spain			
1929-33 (IH 29011, 29094)	43,054.42	.....	4,504.88
Yugoslavia			
1930 (IH 29181)	2,952.46	.....	2,063.54
1931 (IH 30101)	.....	4,900.00	765.01
Public Health Nursing			
Brazil			
1929-31 (IH 28194, 29254)	10,173.87	.....	2,110.91
Denmark			
1930-33 (IH 29192)	3,159.05	.....	1,603.44
1931 (IH 30164)	.....	14,475.00	2,879.78
France			
1929-30 (IH 28206, 29255)	2,112.00	.....	2,075.88
Hungary			
1930-34 (IH 30048)	3,950.00	.....	.....
Poland			
1929-31 (IH 29024)	3,059.69	.....	1,308.72
Yugoslavia			
1929-31 (IH 29071)	300.00	.....	300.00
Public Health Administration			
Guatemala			
1931 (IH 30103)	.....	4,300.00	2,352.39

Porto Rico			
1930 (IH 29194)	$1,869.00	$.....	$1,128.56
1931 (IH 30102, 31042)	.....	10,500.00	6,042.40
Bureaus for Study and Reform of Public Health Activities			
France			
1930 (IH 30002)	12,000.00	.....	11,794.79
1931–33 (IH 30165)	.....	24,000.00	.....
Other State Health Services			
United States			
Florida. Library service			
1931 (IH 31139)	.....	2,025.00	.....
Nevada. Central administration			
1929-30 (IH 29042)	750 00	.....	375.00
1931–32 (IH 30104, 31030)	.....	1,875.00	375.00
New York City Health Department. Study of Child Hygiene and Tuberculosis Divisions			
1930–31 (IH 29097)	2,750.00	.....	1,750 00
New York. Central County Health Service			
1931–33 (IH 30148)	6,250.00	.....	.....
North Carolina. Life Extension Unit			
1929 (IH 28293)	5,000.00	.....	3,333.33
North Dakota. Division of Child Hygiene			
1930–31 (IH 30059)	2,400.00	.....	2,093.68
1931 (IH 31033)	.....	5,400.00	675 00
Foreign Countries			
Austria. Travel of Director of Rural Health Work			
1930 (IH 29196)	1,000.00	.....	.....
1931 (IH 30107)	.....	1,000.00	.....
British Colonial Office, London. Bureau of Hygiene and Tropical Diseases			
1931–36 (IH 31016)	.....	7,350.00	2,435.00

EXHIBIT E—*Continued*

	PRIOR DESIGNATIONS	1931 DESIGNATIONS	1931 PAYMENTS
STATE HEALTH SERVICES—*Continued*			
Other State Health Services—*Continued*			
Foreign Countries—*Continued*			
Bulgaria. National Office of the Direction of Public Health, Sofia			
1928 (IH 28076)	$2,295.31	$	$.....
Ceylon. Office assistance			
1931 (IH 30173)	.....	555.00	420.84
Hungary			
Institute of Social Hygiene, Budapest			
1928 Equipment (IH 28022)	452.85	.....	452.60
1930. Division of Field Work (IH 29197)	1,480.00	.....	1,456.91
State Hygienic Institute, Budapest			
1931–33. Subdivision of Statistics and Epidemiology (IH 30168)	.....	7,825.00	.....
Jamaica. Bureau of Health Education, Kingston			
1930 (IH 29193)	385.17	.....	118.51
1931 (IH 30106)	.....	2,440.00	1,976.66
India. Bureau of Health Education, Mysore State			
1931–33 (IH 31056)	.....	4,810.00	1,703.00
Netherlands East Indies. Division of Health Education, Java			
1929–30 (IH 28222, 29195)	4,259.12	.....	1,540.42
1931 (IH 30105)	.....	3,325.00	1,538.34
Norway. State Institute of Public Health, Oslo			
1929–34 (IH 29043)	42,670.04	.....	7,204.31
Poland. Bureau of District Health Work, Warsaw			
1929–31 (IH 29023)	3,524 82	.....	1,421.52

LEAGUE OF NATIONS			
Toward maintenance of an interchange of public health personnel			
1925 (IH 22472)	$823.67	$	$690.16
1928 (IH 23676, 23850, 28037)	308 52		
1929 (IH 28108)	50,000 00		49,830 39
Development of epidemiological intelligence and public health statistics service and a center of public health documentation			
1927 (IH 23516)	6,937 50		
1928 (IH 23675, 23677)	4,949 17		3,201 52
1929 (IH 28106)	54,795 00		53,780 97
Epidemiological Intelligence Bureau in the Far East, Singapore, Straits Settlements			
1929 (IH 28107)	40,000 00		20,293 91
PUBLIC HEALTH EDUCATION			
Central Medical School for Native Medical Students, Suva, Fiji			
1929–31 (IH 28221, 29095)	16,119.83		10,836 89
First Midwifery School, Peiping, China			
1929–33 (IH 29044, 29257)	31,959.18		2,875 08
Harvard Medical School			
Preparation and publication of revised edition of *Syllabus of Preventive Medicine* (IH 28115)	6,500.00		
Schools of Hygiene and Public Health			
Brazil. Institute of Hygiene, São Paulo. Equipment and supplies (IH 22672)	125.53		
Czechoslovakia. State Institute of Public Health, Prague			
Building and equipment (IH 22497)	15,956 90		
Hungary. State Hygienic Institute, Budapest. School for Public Health Officers			
1929–32 (IH 28392, 29093)	7,140 00		4,929.58
Norway. School of Public Health, Oslo. Maintenance			
1930–35 (IH 30012)	7,120.00		Cr. 980.00

EXHIBIT E—*Continued*

	PRIOR DESIGNATIONS	1931 DESIGNATIONS	1931 PAYMENTS
PUBLIC HEALTH EDUCATION—*Continued*			
Schools of Hygiene and Public Health—*Continued*			
Trinidad. Imperial College of Tropical Agriculture, St. Augustine. Maintenance of chair of sanitation and tropical hygiene			
1929–32 (IH 28105, 29082)	$10,000.00	$.....	$5,000.00
Schools of Nursing			
University of Washington, Seattle, Washington			
1931 (IH 30140)	4,500.00	.....	4,066.66
1932 (IH 31065)	.....	4,500.00	1,200.00
Washington University, St. Louis, Missouri			
1931–32 (IH 31008)	.....	6,000.00	4,000.00
Training of health workers			
1929–30 (IH 28365, 29204)	25,471.32	.....	3,684.39
1931 (IH 30112, 31038)	.....	46,500.00	21,065.77
Travel of government health officials			
State health officials in United States, Canada, and Mexico			
1929–30 (IH 29201)	8,042.36	.....	1,342.52
1931 (IH 30109)	.....	12,000.00	4,955.53
European health officials in Europe			
1929–30 (IH 29090, 30047)	5,269.50	.....	2,296.36
1931 (IH 30111, 31039)	.....	6,500.00	3,015.79
Visiting health officials			
1929–30 (IH 28364, 29203)	25,329.47	.....	12,418.48
1931 (IH 30110)	.....	20,000.00	1,778.77
Training Stations			
United States			
Michigan			
1929–31 (IH 29050)	22,535.00	.....	3,766.00

Canada			
Quebec			
1929–30 (IH 29064)	$2,918.74	$.....	$2,542.39
1931 (IH 30156)	.....	5,000.00	3,750.00
Africa			
Nigeria			
1931 (IH 31019)	.....	75,000.00	.....
Europe			
Italy			
1930 (IH 29205)	3,623.56	.....	3,402.37
1931 (IH 30113)	.....	3,300.00	2,479.43
Fellowships			
Grants to doctors for study of public health			
1929–30 (IH 28358, 29198, 30046, 30053)	203,586.01	.....	161,142.62
1931 (IH 30108, 30169, 31066)	.....	313,100.00	101,881.74
Resident			
Hungary (IH 29199)	1,000.00	.....	995.87
Yugoslavia (IH 29200)	401.77	.....	400.49
CONTROL OF SPECIFIC DISEASES; INVESTIGATIONS			
Hookworm			
Control			
Mexico			
1927 (IH 23171)	10.68	.....	.....
South America			
Colombia			
1929–30 (IH 28195)	1,139.26	.....	620.34
1931 (IH 30115)	.....	7,500.00	4,480.99
Paraguay			
1929 (IH 28197)	726.11	.....	.....
The East			
Egypt			
1930 (IH 29206)	5,138.21	.....	266.99
1931 (IH 30116)	.....	7,030.00	3,531.99

EXHIBIT E—*Continued*

	PRIOR DESIGNATIONS	1931 DESIGNATIONS	1931 PAYMENTS
CONTROL OF SPECIFIC DISEASES; INVESTIGATIONS—*Continued*			
Hookworm—*Continued*			
Control—*Continued*			
Europe			
Spain			
1930 (IH 29207-08)	$1,940.58	$..	$981.19
1931 (IH 30114)		850.00	
Investigations and Surveys			
United States			
Alabama			
1930 (IH 29213, 30033)	3,079.49		2,843.77
1931 (IH 30141, 31063)		15,550.00	10,925.44
Studies by Dr. W. W. Cort			
1930 (IH 29210)	5,264.83		4,633.78
1931–32 (IH 31017)		3,200.00	989.64
Vanderbilt University, Nashville, Tennessee			
Research in carbon tetrachloride			
1930–31 (IH 29211–12, 30077)	16,314.50		13,879.49
1931–32 (IH 31018)		22,780.00	3,588.96
Foreign Countries			
Egypt			
1930 (IH 30009)	3,153.12		1,315.55
1931 (IH 30174)		6,575 00	4,870.66
Western Samoa			
Hookworm and yaws campaign			
1932–34 (IH 31161)		6,800.00	

Malaria			
Control			
United States			
Georgia			
1930 (IH 29214)	$888.67	$	$888 67
1931 (IH 30117)		3,500.00	2,517 57
Louisiana			
1930 (IH 29215)	639 35		424 67
1931 (IH 30118)		1,200 00	525 00
Mississippi			
1930 (IH 29216)	5,067.74		4,838.49
1931 (IH 30119)		9,450 00	3,332 08
North Carolina			
1927 (IH 23405)	844.40		
Virginia			
1930 (IH 29262)	500 00		500 00
1931 (IH 30153)		1,000 00	750 00
Foreign Countries			
Albania			
1931 (IH 30121)		10,000.00	5,187.16
Brazil			
1929–30 (IH 28183, 29217)	15,174.19		
Costa Rica			
1928 (IH 28101)	750.00		750 00
1931 (IH 31013)		1,500 00	750.00
Grenada			
1930–31 (IH 30065)	789.00		264.76
India			
Mysore State			
1928–30 (IH 28046, 29034)	1,950.50		1,802.00

EXHIBIT E—*Continued*

	PRIOR DESIGNATIONS	1931 DESIGNATIONS	1931 PAYMENTS
CONTROL OF SPECIFIC DISEASES; INVESTIGATIONS—*Continued*			
Malaria—*Continued*			
Control—*Continued*			
Foreign Countries—*Continued*			
India—*Continued*			
Sawantwadi State			
1929–30 (IH 29033)	$497.72	$.....	Cr. $1,201.64
1931 (IH 31041)	.....	1,700.00	282.48
Panama			
1931 (IH 30159)	.....	3,500.00	2,372.31
Spain			
1930 (IH 29220)	1,432.17	.....	525.93
1931 (IH 30172)	.....	7,500.00	4,245.02
Investigations and Surveys			
United States			
Florida			
1931 (IH 30155, 31037)	.....	13,500.00	9,820.31
University of Chicago, Illinois			
1930 (IH 29225)	623.92	.....	622.26
1931 (IH 30133)	.....	3,000.00	2,532.16
Foreign Countries			
Albania			
1931 (IH 30127)	.....	1,000.00	689.66
Bulgaria			
1929–31 (IH 28293, 29252, 30018)	11,522.02	.....	11,522.02
1931 (IH 30124)	.....	13,834.00	7,427.57
France, Corsica			
1930 (IH 29223)	6,640.00	.....	3,387.57
1931 (IH 30125)	.....	3,320.00	.....

Greece			
1930 (IH 30011)	$5,966.81	$.....	$5,275.09
1931 (IH 30126)	.....	20,100.00	11,489.02
Italy			
1930 (IH 29222, 30017)	22,742.71	.....	16,722.91
1931 (IH 30120, 30128)	.....	62,175.00	43,689.30
Italy and Germany			
1931 (IH 30129)	.....	2,500.00	1,571.61
Jamaica			
1929-30 (IH 28166, 29219)	161.10	.....	118.32
1931 (IH 30122)	.....	980.00	782.64
Netherlands, Amsterdam			
1929-33 (IH 28402, 29091)	20,155.45	.....	6,042.72
Philippine Islands			
1930 (IH 29224, 30008)	1,825.47	.....	1,266.56
1931 (IH 30131-32, 31009)	.....	10,850.00	6,664.43
Porto Rico			
1929-31 (IH 29259, 30039)	4,236.03	.....	4,126.15
1931-32 (IH 31059)	.....	7,500.00	924.27
Venezuela			
1930 (IH 29218)	1,680.00	.....	61.95
1931 (IH 30123, 31044)	.....	3,025.00	845.54
Yugoslavia			
1930 (IH 29221)	3,000.00	.....	1,837.35
1931 (IH 30130)	.....	2,100.00	.....
Yellow Fever Control			
Brazil			
1930 (IH 29226, 30068)	343,222.02	.....	252,918.71
1931 (IH 30134)	.....	270,000.00	.....

EXHIBIT E—*Continued*

	PRIOR DESIGNATIONS	1931 DESIGNATIONS	1931 PAYMENTS
CONTROL OF SPECIFIC DISEASES; INVESTIGATIONS—*Continued*			
Yellow Fever—*Continued*			
Investigations and Surveys			
West Africa			
1930 (IH 29226)	$18,285.58	$.....	$14,605.53
1931 (IH 30134)	.....	100,000.00	66,123.55
Brazil, Bahia			
1930 (IH 29226)	10,905.51	.....	8,517.82
1931 (IH 30134)	.....	50,000.00	37,967.08
Research and training, New York			
1930 (IH 29226)	16,767.88	.....	9,266.23
1931 (IH 30134)	.....	65,000.00	55,671.18
Surveys			
1930 (IH 29226)	9,998.74	.....	.....
History of Yellow Fever			
1930 (IH 30067)	87.63	.....	.....
1931 (IH 31047)	.....	2,000.00	700.00
Respiratory Diseases			
Field Research			
1930–31 (IH 30010, 30045, 30052)	18,330.21	.....	11,084.64
Undulant Fever			
France			
Investigations			
1930 (IH 30043)	9,440.00	.....	5,963.49
1931 (IH 31046)	.....	4,500.00	24.80

Sanitation			
Burma, India			
Field research relating to bored-hole latrines			
1930 (IH 29230)	$604.82	$	$358.06
1931 (IH 30135, 31040)	835.00	4,840 00	572 57
Ceylon			
Complete sanitation of a village with bored-hole latrines, 1931 (IH 31036)		2,035.00	1,364 98
Cook Islands			
Soil sanitation			
1931–35 (III 31160)		7,875 00	
Philippine Islands			
1930–31 (IH 30054)	6,750.00		1,372 36
1931–32 (IH 31056)		5,250 00	
Epidemiological Studies			
United States			
Maryland			
Field study of dysentery			
1930–32 (IH 30035)	6,900 00		
Tennessee			
Research, developing methods, and training of personnel, 1930–33 (IH 30021)	9,326 74		3,097 74
Field study of *Endamoeba histolytica*			
1930–32 (IH 30034)	15,229.93		4,760.19
Tuberculosis studies			
1931–33 (IH 31055)		30,482.50	
Virginia			
Field study of dysentery			
1930–31 (IH 30036, 30154)	10,212.73		7,556.25
1932–33 (IH 31157)		16,200.00	

EXHIBIT E—*Continued*

	PRIOR DESIGNATIONS	1931 DESIGNATIONS	1931 PAYMENTS
CONTROL OF SPECIFIC DISEASES; INVESTIGATIONS—*Continued*			
Epidemiological Studies—*Continued*			
United States—*Continued*			
Virginia—*Continued*			
Study of scarlet fever			
1932-34 (IH 31156)	$.....	$15,000.00	$.....
University of Pennsylvania, Philadelphia			
Henry Phipps Institute for the Study, Treatment, and Prevention of Tuberculosis			
Studies in tuberculosis			
(IH 30044)	60,000.00	.....	40,000.00
Foreign Countries			
Jamaica			
Studies in tuberculosis			
Roentgenological laboratory			
1930 (IH 30161)	975.00	.....	975.00
1931 (IH 31010)	.....	16,550.00	11,709.88
Tuberculosis study clinic			
1930 (IH 29227)	915.72	.....	597.97
1931 (IH 31037)	.....	7,650.00	6,258.57
X-ray machine			
1930 (IH 30064)	83.27	.....	83.27
Equipment and supplies incidental to the study of tuberculosis			
(IH 31043)	.....	10,000.00	7,373.75
Mexico			
Anthelmintics; malaria and yellow fever studies			
1931 (IH 31007)	.....	3,750.00	.....

Porto Rico			
Anemia investigations			
1931–32 (IH 31014, 31050, 31060, 31165)	$.....	$31,571.36	$12,560.40
Public Health Surveys			
India			
Travancore State			
1930 (IH 29229)	843.14	.....	148.50
1931 (IH 30138)	.....	555.00	.....
FIELD SERVICE			
Salaries and expenses of staff			
Salaries (IH 29231, 30139)	37,306.36	520,000.00	507,323.57
Commutation (IH 29231, 30139)	23,736.09	53,500.00	44,375.55
Travel (IH 29231, 30139)	28,871.16	165,000.00	150,508.01
Medical examinations (IH 29231, 30139)	539.25	1,000.00	726.70
Field equipment and supplies (IH 29231, 30139)	3,401.95	6,000.00	5,271.83
Pamphlets and charts (IH 29231, 30139)	3,294.68	7,000.00	8,451.18
Express, freight, and exchange (IH 29231, 30139)	146.88	1,000.00	371.78
Insurance and retirement allowances (IH 29231, 30139)	19,940.36	50,500.00	43,963.57
Bonding (IH 29231, 30139)	16.49	3,000.00	1,731.63
Automobiles (IH 29231, 30139)	2,000.00	2,000.00	.....
Rio de Janeiro office. Administration (IH 29231)	4,057.12	.....	1,873.96
Greece. Services of malariologist and sanitary engineer, 1931–34 (IH 30167)	60,000.00	.....	.....
Director's fund for budget revision (IH 31020)	.....	3,835.00	.....
Totals	$2,480,604.17	$2,702,756.61*	$2,572,244.96
Refunds on prior year appropriations			
Siam, hookworm work, 1928 (IH 23685)	$9.76		

F * The Foundation appropriated during 1931 for the work of the International Health Division $2,829,214.00, the undesignated balance of $126,457.39 being allowed to lapse as of December 31, 1931.

EXHIBIT F

SUMMARY OF PRIOR OBLIGATIONS ACCOUNT

DECEMBER 31, 1931

PRIOR OBLIGATIONS ACCOUNT			
Unpaid appropriations, December 31, 1930		$17,047,267.95	
Appropriations made during the year ended December 31, 1931		2,370,840.00	
			$19,418,107.95
Less balances of appropriations allowed to lapse			411,462.46
			$19,006,645.49
Less payments made during the year 1931			6,763,330.83
Appropriations payable			$12,243,314.66
Pledges and authorizations for which appropriations had not been made, December 31, 1930		$7,140,800.00	
Less			
Appropriations made during the year 1931 (as above)	$2,370,840.00		
Authorization allowed to lapse, returned to Principal Fund	275,000.00	2,645,840.00	4,494,960.00
Balance payable on appropriations, pledges, and authorizations made prior to January 3, 1929			$16,738,274.66

EXHIBIT G

SUMMARY OF APPROPRIATIONS ACCOUNT

DECEMBER 31, 1931

APPROPRIATIONS ACCOUNT			
Unpaid appropriations, December 31, 1930		$26,560,678 05	
Appropriations made during the year ended December 31, 1931 (of this sum, $1,255,000, was appropriated from current pledges and authorizations)		16,367,127.90	$42,927,805 95
Less unused balances of appropriations allowed to lapse			426,880 76
			$42,500,925.19
Less payments made during the year 1931			10,713,894.19
Appropriations payable			$31,787,031 00
Pledges and authorizations for which appropriations had not been made, December 31, 1930		$10,428,000 00	
Pledges and authorizations made during the year 1931		548,000 00	
		$10,976,000.00	
Less			
Appropriations made on pledges and authorizations during the year 1931 (see above)	$1,255,000.00		
Authorization allowed to lapse	750,000 00	2,005,000.00	8,971,000 00
Balance payable on appropriations, pledges, and authorizations made on or subsequent to January 3, 1929			$40,758,031.00

EXHIBIT H

STATEMENT OF PRINCIPAL FUND

Unappropriated principal, December 31, 1930	$142,675,978.13
Authorization set aside for prior obligations allowed to lapse	275,000.00
	$142,950,978.13
Less amount transferred to the Reserve for Contingent Projects in accordance with a resolution of the Executive Committee dated January 14, 1931, and a resolution of the Board of Trustees dated December 16, 1931	1,575,000.00
Balance, December 31, 1931	$141,375,978.13

This fund is accounted for in securities.

STATEMENT OF RESERVE FOR CONTINGENT PROJECTS

Balance, December 31, 1930	$6,000,000.00
Amount transferred from principal (see above)	1,575,000.00
Balance, December 31, 1931	$7,575,000.00

This fund is accounted for in securities.

EXHIBIT I

STATEMENT OF LAND, BUILDINGS, AND EQUIPMENT FUND

		TOTAL Dec. 31, 1930	EXPENDITURES 1931	TOTAL Dec. 31, 1931
New York Office				
Library		$11,997.49	$658.04	$12,655.53
Equipment	$36,366.07			
Less depreciation, 1931	3,914.37	32,451.70	3,409.29	35,860.99
Paris Office				
Part interest in building occupied by Paris office		68,000.00	Cr. 1,313.21	66,686.79
Land in Shanghai		298,331.95	.....	298,331.95
		$410,781.14	$2,754.12	$413,535.26

EXHIBIT J

SCHEDULE OF SECURITIES ON DECEMBER 31, 1931

BONDS

Name	Interest Rate Per Cent	Date of Maturity	Amount	Foundation's Ledger Value Per Cent	Foundation's Total Ledger Value
American Telephone & Telegraph Co. Thirty-Year Collateral Trust	5	Dec., 1946	$100,000.00	97.75	$97,750.00
American Water Works & Electric Co., Inc. Twenty-Year Collateral Trust Gold	5	Apr., 1934	532,000.00	101.97827	542,524.40
Armour & Co. (Illinois) Real Estate First Mortgage Gold	4½	June, 1939	1,142,000.00	87.	993,540.00
Atchison, Topeka, & Santa Fe Ry. One-Hundred-Year Adjustment Mortgage Gold	4	July, 1995	420,000.00	75.	315,000.00
Atchison, Topeka & Santa Fe Ry. Twenty-Year Convertible Gold	4½	Dec., 1948	274,000.00	118.	323,320.00
The Baltimore & Ohio R. R. Twenty-Year Convertible Mortgage Gold	4½	Mar., 1933	991,000.00	100.94241	1,000,339.38
Baltimore & Ohio R. R. Equipment Gold Series "F"	4½	Nov., 1933	175,000.00	100.596382	176,043.67
Baltimore & Ohio R. R. Refunding & General Mortgage Gold Series "A"	5	Dec., 1995	1,750,000.00	80.	1,400,000.00
Boston & Maine R. R. Mortgage Gold Series "HH"	5	Mar., 1932	36,000.00	100.74133	36,266.88
Boston & Maine R. R. First Mortgage Gold Series "M"	6	Jan., 1933	8,000.00	100.5625	8,045.00

Brooklyn-Manhattan Transit Corporation Three-Year Secured Gold Notes	6½	Aug., 1932	$1,678,000.00	101.54983	$1,704,006.26
Burlington, Cedar Rapids, & Northern Ry. Consolidated First Gold	5	Apr., 1934	64,000.00	101.5625	65,000.00
Calgary Protestant Public School District No. 19, Province of Alberta	5	Serially June 2, 1932–48	157,000.00	85.	133,450.00
Canadian Pacific Ry. Ten-year Collateral Gold	5	Apr. 15, 1934	146,000.00	100.932369	147,361.26
Carolina, Clinchfield, & Ohio Ry. First Mortgage Thirty-Year Gold	5	June, 1938	1,488,000.00	75.	1,116,000.00
The Central R. R. of New Jersey Equipment Trust Gold of 1926	4¼	Aug., 1933	106,000.00	100.609424	106,645.99
The Central R. R. of New Jersey Equipment Trust Gold of 1926	4½	Aug., 1934	106,000.00	100.826415	106,876.00
Chesapeake & Ohio Ry. Equipment Gold of 1930	4½	May, 1936	125,000.00	100.381032	125,476.29
Chicago & Alton R. R. Refunding Mortgage Gold	3	Oct., 1949	551,000.00	65	358,150.00
Chicago City & Connecting Rys. Collateral Trust (Certificates of Deposit)	5	Jan., 1927	1,305,000.00	52.	678,600.00
Chicago, City of, Tax Anticipation Warrant Notes dated August 8, 1930	6	Apr. 15, 1932	850,000.00	101.121323	859,531.25
Chicago & Erie R. R. First Mortgage Gold	5	May, 1982	156,000.00	93.	145,080.00
Chicago Gas Light & Coke Co. First Mortgage	5	July, 1937	22,000.00	102.389227	22,525.63
Chicago, Junction Rys., & Union Stockyards Co. Forty-Year Mortgage and Collateral Refunding	5	Apr., 1940	500,000.00	93.	465,000.00

EXHIBIT J—*Continued*

NAME	INTEREST RATE PER CENT	DATE OF MATURITY	AMOUNT	FOUNDATION'S LEDGER VALUE PER CENT	FOUNDATION'S TOTAL LEDGER VALUE
Chicago, Milwaukee, & St. Paul Ry. Receivers' Equipment Gold Series "D"	5	$133,000 due Aug. 1 each year, 1932–40	$1,197,000.00	98.25	$1,176,052.50
Chicago, Milwaukee, & St. Paul Ry. General Mortgage Gold Series "C"	4½	May, 1989	500,000.00	103.	515,000.00
Chicago, Milwaukee, St. Paul, & Pacific R. R. Fifty-Year Mortgage Series "A"	5	Feb., 1975	446,300.00	95.	423,985.00
Chicago, Milwaukee, St. Paul, & Pacific R. R. Convertible Adjustment Mortgage Series "A"	5	Jan., 2000	1,785,200.00	62.50	1,115,750.00
Chicago & North Western Ry. General Mortgage	5	Nov., 1987	195,000.00	98.	191,100.00
Chicago & North Western Ry. Sinking Fund Debenture	5	May, 1933	12,000.00	100.625	12,075.00
Chicago Rys. Co. First Mortgage Gold (15% paid) (Certificates of Deposit)	5	Feb., 1927	500,000.00	82.	410,000.00
Chicago, Rock Island, & Pacific Ry. First and Refunding Mortgage Gold	4	Apr., 1934	2,732,000.00	95.92119	2,620,566.93
Chicago, Rock Island, & Pacific Ry. Equipment Gold of 1929 Series "P"	4½	Aug., 1934	128,000.00	100.66364	128,849.46
Chicago, Rock Island, & Pacific Ry. Equipment of 1927 Series "O"	4½	July, 1936	129,000.00	100.549186	129,708.45

Chicago, Rock Island, & Pacific Ry. Equipment of 1927 Series "O"	4½	July, 1937	$143,000.00	100.061573	$143,088.05
Chicago, Rock Island, & Pacific Ry. Equipment Gold Series "Q"	4½	June, 1935	100,000.00	100.456268	100,456.27
Chicago, Rock Island, & Pacific Ry. Equipment Gold Series "Q"	4½	Dec., 1935	100,000.00	100.49664	100,496.64
Chicago, Rock Island, & Pacific Ry. Equipment Gold Series "Q"	4½	June, 1936	100,000.00	100.53614	100,536.14
Chicago, St. Louis, & New Orleans R. R. Consolidated Mortgage Gold	3½	June 15, 1951	200,000.00	66.	132,000.00
Cleveland, Cincinnati, Chicago, & St. Louis Ry. General Mortgage	4	June, 1993	700,000.00	83.89285	587,250.00
Cleveland Short Line Ry. First Mortgage Gold	4½	Apr., 1961	500,000.00	95.	475,000.00
Colorado & Southern Ry. Refunding and Extension Mortgage Gold	4½	May, 1935	480,000.00	92.377477	443,411.89
Consolidated Gas, Electric Light, & Power Co. General Mortgage Gold	4½	Feb. 14, 1935	63,000.00	101.169635	63,736.87
Consolidation Coal Co. Secured Gold Notes	5	Apr., 1934	500,000.00	100.	500,000.00
Corn Products Refining Co. First Mortgage Sinking Fund Twenty-Five-Year Gold	5	May, 1934	34,000.00	103.1875	35,083.75
The Delaware & Hudson Co. Fifteen-Year Gold	5½	May, 1937	178,000.00	105.380623	187,577.51
Denver & Rio Grande R. R. First Consolidated Mortgage Gold	4	Jan., 1936	810,000.00	96.4238456	781,033.15
Denver & Rio Grande Western R. R. General Mortgage	5	Aug., 1955	574,000.00	59.	338,660.00
The Detroit Edison Co. First Mortgage Gold	5	Jan., 1933	146,000.00	102.5513767	149,725.01

EXHIBIT J—*Continued*

Name	Interest Rate Per Cent	Date of Maturity	Amount	Foundation's Ledger Value Per Cent	Foundation's Total Ledger Value
The Edison Electric Illuminating Co. of Boston Three-Year Gold Notes	5	Jan. 15, 1933	$1,038,000.00	102.01204	$1,058,885.04
Edmonton Public School District No. 7 of the Province of Alberta, Debenture	5	Apr. 15, 1953	350,000.00	81.	283,500.00
Equitable Gas Light Co. of New York First Consolidated Mortgage Gold	5	Mar., 1932	10,000.00	101.	10,100.00
Erie R. R. General Mortgage Convertible Gold Series "B"	4	Apr., 1953	1,065,000.00	74.717586	795,742.30
General Motors Acceptance Corp. Serial Gold Notes Series "F"	5	Mar., 1932	131,000.00	100.747626	131,979.39
General Motors Acceptance Corp. Serial Gold Notes Series "G"	5	Mar., 1933	244,000.00	100.52895	245,290.64
General Motors Acceptance Corp. Serial Gold Notes Series "H"	5	Mar., 1934	473,000.00	100.538716	475,548.13
General Motors Acceptance Corp. Serial Gold Notes Series "I"	5	Mar., 1935	163,000.00	100.455147	163,741.89
Great Northern Ry. General Mortgage Gold Series "A"	7	July, 1936	1,095,000.00	110.910052	1,214,465.07
Houston Belt & Terminal Ry. First Mortgage Sinking Fund Gold	5	July, 1937	5,000.00	100.5	5,025.00
Humble Oil & Refining Co. Ten-Year Debenture Gold	5½	July 15, 1932	849,000.00	102.457161	869,861.30

Illinois Central R. R. Fifteen-Year Secured Gold	6½	July, 1936	$89,000.00	108.8055	$96,836.89
Illinois Central R. R. Refunding Mortgage Gold	4	Nov., 1955	1,233,000.00	82.45985	1,016,730.00
Illinois Central R. R. Equipment Series "M"	4½	$80,000 due May 1 each year, 1932–41	800,000.00	98.5	788,000.00
Illinois Central R. R. & Chicago, St. Louis, & New Orleans R. R. Joint First Refunding Gold Series "A"	5	Dec., 1963	1,000,000.00	90.	900,000.00
Imperial Chinese Government Hu Kuang Rys. Sinking Fund Loan of 1911	5	June 15, 1951	£189,000.00	34.	321,300.00
Interborough Rapid Transit Co. First & Refunding Mortgage (Stamped) Gold	5	Jan., 1966	$1,750,000.00	96.85713	1,695,000.00
Iowa Ry. & Light Co. First & Refunding Twenty-Year Gold	5	Sept., 1932	152,000.00	100.871309	153,324.39
Kansas City, Fort Scott, & Memphis Ry. Refunding Mortgage Gold	4	Oct., 1936	274,000.00	95.755708	262,370.64
Kansas City Southern Ry. Refunding & Improvement Mortgage Gold	5	Apr., 1950	550,000.00	84.	462,000.00
Kansas City-Terminal Ry. First Mortgage Gold	4	Jan., 1960	500,000.00	75.	375,000.00
The Laclede Gas Light Co. Refunding & Extension Mortgage Gold	5	Apr., 1934	200,000.00	102.3797	204,759.41
Lake Erie & Western R. R. Second Mortgage Gold	5	July, 1941	100,000.00	100.	100,000.00
Lake Shore & Michigan Southern Ry. First Mortgage Gold	3½	June, 1997	926,000.00	87.	805,620.00

EXHIBIT J—*Continued*

NAME	INTEREST RATE PER CENT	DATE OF MATURITY	AMOUNT	FOUNDATION'S LEDGER VALUE PER CENT	FOUNDATION'S TOTAL LEDGER VALUE
Louisville & Nashville-Southern Ry. Monon Collateral Joint Fifty-Year Gold	4	July, 1952	$775,000.00	72.	$558,000.00
Magnolia Petroleum Co. Serial Gold Debenture Series "G"	4½	Feb. 15, 1932	18,000.00	100.375	18,067.50
Magnolia Petroleum Co. Serial Gold Debenture Series "H"	4½	Feb. 15, 1933	10,000.00	100.375	10,037.50
Magnolia Petroleum Co. Serial Gold Debenture Series "I"	4½	Feb. 15, 1934	35,000.00	100.3303428	35,115.62
Magnolia Petroleum Co. Serial Gold Debenture Series "J"	4½	Feb. 15, 1935	5,000.00	100.25	5,012.50
Mexico, Republic of, Consolidated External Loan, Series "C" (Assenting bonds)	5	June, 1945	354,000.00	34.	120,360.00
Class "A" Certificates for interest in arrears			150,228.75	6.	9,013.73
Middle West Utilities Co. Serial Convertible Gold Notes	5	June, 1932	2,132,000.00	100.113539	2,134,420.66
Missouri-Kansas-Texas R. R. Prior Lien Gold Series "A"	5	Jan., 1962	331,250.00	78.5	260,031.25
Missouri-Kansas-Texas R. R. Prior Lien Gold Series "B"	4	Jan., 1962	331,250.00	64.5	213,656.25
Montreal Light, Heat, & Power Co. First & Collateral Trust Gold	4½	Jan., 1932	55,000.00	100.4943	55,271.87
Montreal Light, Heat, & Power Co. (Lachine Power) Sinking Fund Gold	5	Apr., 1933	84,000.00	101.224714	85,028.76
Morris & Essex R. R. First Refunding Mortgage Gold	3½	Dec., 2000	175,000.00	82.75	144,812.50

Mutual Fuel Gas Co. First Mortgage Gold..	5	Nov., 1947	$250,000.00	100.	$250,000.00
National Rys. of Mexico Prior Lien Fifty-Year Sinking Fund	4½	July, 1957	350,000.00	13.	45,500.00
Secured 6% notes for coupon due January 1, 1914		Jan., 1933	1,125.00	59.	663.75
National Rys. of Mexico Certificates Series "A" Interest in arrears			47,857.50	5.50	2,632.16
National Rys. of Mexico Certificates Series "B" Interest in arrears			94,500.00	.50	472.50
New England Telephone & Telegraph Co. Twenty-Year Debenture Gold	5	Oct., 1932	210,000.00	101.790485	213,760.02
New Orleans, Texas, & Mexico Ry. Non-Cumulative Income Gold Series "A"	5	Oct., 1935	75,000.00	99.05	74,287.52
New York Central & Hudson River R. R. Thirty-Year Debenture Gold	4	May, 1934	1,043,000.00	96.37266	1,005,166.90
New York Central R. R. Twenty-Year Convertible Debenture Gold	6	May, 1935	235,000.00	106.485377	250,240.64
New York Central R. R. Equipment Gold..	4½	Apr. 15, 1932	100,000.00	100.5	100,500.00
New York Central R. R. Equipment Gold..	4½	Apr. 15, 1933	50,000.00	100.5	50,250.00
New York Central R. R. Equipment Gold (Second Trust of 1929)	4½	Dec., 1933	11,000.00	100.5	11,055.00
New York Central R. R. Equipment Gold of 1930	4½	May 15, 1935	15,000.00	100.674666	15,101.20
New York Central R. R. Equipment Gold of 1930	4½	May 15, 1936	50,000.00	100.835	50,417.50
New York Central R. R. Equipment Gold of 1930	4½	May 15, 1937	125,000.00	100.988664	126,235.83
New York Central R. R. New York Central Lines Equipment Gold Series of 1922	5	June, 1937	29,000.00	103.3310689	29,966.01
New York Central R. R. New York Central Lines Equipment Gold Series of 1923	5	June, 1937	14,000.00	103.4270714	14,479.79

EXHIBIT J—*Continued*

NAME	INTEREST RATE PER CENT	DATE OF MATURITY	AMOUNT	FOUNDATION'S LEDGER VALUE PER CENT	FOUNDATION'S TOTAL LEDGER VALUE
New York Connecting R. R. First Mortgage Gold Series "A"	4½	Aug., 1953	$500,000.00	95.69073	$478,453.65
New York, Lake Erie, & Western Docks & Improvement Co. First Extended Gold	5	July, 1943	400,000.00	90.	360,000.00
Northern Pacific Ry. Refunding & Improvement Mortgage Gold Series "A"	4½	July, 2047	1,390,000.00	85.04676	1,182,150.00
Northwestern Elevated R. R. First Mortgage Gold	5	Sept., 1941	500,000.00	70.	350,000.00
The Pacific Telephone & Telegraph Co. First & Collateral Mortgage Gold	5	Jan. 2, 1937	500,000.00	89.5	447,500.00
Pennsylvania R. R. General Equipment Trust Certificates Series "D"	4½	$30,000 due May 15 each year, 1932–41	300,000.00	98.5	295,500.00
Pennsylvania R. R. General Mortgage Gold Series "A"	4½	June, 1965	1,500,000.00	98.25	1,473,750.00
Philadelphia & Reading Coal & Iron Co. Refunding Mortgage Sinking Fund Gold	5	Jan., 1973	167,000.00	94.25234	157,401.42
Pittsburg, Cincinnati, Chicago, & St. Louis Ry. Consolidated Mortgage Gold Series "I"	4½	Aug., 1963	500,000.00	103.	515,000.00
Portland General Electric Co. First Mortgage Gold Sinking Fund	5	July, 1935	124,000.00	101.92692	126,389.38

Public Service Corporation of New Jersey Perpetual Interest Bearing Certificates...	6		$550,000.00	84.	$462,000.00
Raleigh & Gaston R. R. First Mortgage Gold Fifty-Year	5	Jan., 1947	250,000.00	95.	237,500.00
Reading Company Equipment Trust Gold Series "M"	4½	Nov., 1937	100,000.00	102.10579	102,105.79
Reading Co. General and Refunding Mortgage Gold Series "A"	4½	Jan., 1997	333,000.00	94.25	313,852.50
Rock Island, Arkansas, & Louisiana R. R. First Mortgage Gold	4½	Mar., 1934	613,000.00	100.279368	614,712.53
St. Louis-San Francisco Ry. Equipment Gold Series "CC"	4	$50,000 due May 15 each year, 1932–43	600,000.00	92.853575	557,121.45
St. Louis-San Francisco Ry. Prior Lien Gold Series "A"	4	July, 1950	1,500,000.00	72.75	1,091,250.00
St. Louis Southwestern Ry. First Consolidated Gold	4	June, 1932	3,837,000.00	83.39637	3,199,918.80
San Francisco Gas & Electric Co. General Mortgage Gold	4½	Nov., 1933	70,000.00	100.25	70,175.00
Seaboard Air Line Ry. First & Consolidated Mortgage Gold Series "A"	6	Sept., 1945	227,500.00	40.	91,000.00
Southern Pacific Co. Central Pacific Stock Collateral Gold	4	Aug., 1949	100,000.00	76.	76,000.00
Southern Pacific Co. Equipment Gold Series "I"	4½	$100,000 due June 1 each year, 1932–41	1,000,000.00	98.5	985,000.00
Southern Pacific Co. Equipment Gold Series "M"	4½	May, 1932	10,000.00	100.375	10,037.50

EXHIBIT J—*Continued*

NAME	INTEREST RATE PER CENT	DATE OF MATURITY	AMOUNT	FOUNDATION'S LEDGER VALUE PER CENT	FOUNDATION'S TOTAL LEDGER VALUE
Southern Pacific Co. Equipment Gold Series "F"	5	Dec., 1934	$37,000.00	102.903702	$38,074.37
Southern Pacific Co. Equipment Gold Series "E"	7	June, 1935	32,000.00	110.771375	35,446.84
Southern Pacific R. R. First Refunding Mortgage Gold	4	Jan., 1955	100,000.00	86.	86,000.00
Standard Oil Co. (New Jersey) Twenty-Year Gold Debenture	5	Dec. 15, 1946	13,827,000.00	100.5	13,896,135.00
Standard Oil Co. of New York Serial Debenture Gold	4½	Feb. 15, 1932	25,000.00	100.25	25,062.50
Standard Oil Co. of New York Serial Debenture Gold	4½	Feb. 15, 1934	15,000.00	100.4374666	15,065.62
Standard Oil Co. of New York Serial Debenture Gold	4½	Feb. 15, 1935	10,000.00	100.3125	10,031.25
Standard Oil Co. of New York Serial Debenture Gold	4½	Feb. 15, 1936	20,000.00	100.50	20,100.00
Standard Oil Co. of New York Serial Debenture Gold	4½	Feb. 15, 1937	39,000.00	99.9823589	38,993.12
Tennessee Coal, Iron, & R. R. Co. General Mortgage	5	July, 1951	400,000.00	92.	368,000.00
Union Electric Light & Power Co. Twenty-Five-Year Refunding & Extension Mortgage Gold	5	May, 1933	22,000.00	101.110818	22,244.38

Union Oil Co. of California Ten-Year Sinking Fund Gold Series "C"	5	Feb., 1935	$400,000.00	100.30985	$401,239.40
Union Tank Car Co. Equipment Gold	4½	$100,000 due Oct. 1 each year, 1932-36	500,000.00	98.54	492,700.00
United Drug Co. Serial Gold Notes	5	Apr., 1932	20,000.00	100.125	20,025.00
United Drug Co. Serial Gold Notes	5	Apr., 1933	35,000.00	100.973228	35,340.63
United Electric Co. of New Jersey First Mortgage Gold	4	June, 1949	500,000.00	72.	360,000.00
The United Light & Rys. Co. (Maine) First and Refunding Mortgage Gold	5	June, 1932	571,000.00	100.619865	574,539.43
United States of America Fourth Liberty Loan Gold	4¼	Oct. 15, 1933 to 1938	6,661,000.00	96.82635	6,449,603.20
United States Rubber Co. First and Refunding Mortgage Gold Series "A"	5	Jan., 1947	3,820,000.00	85.	3,247,000.00
Wabash R. R. Second Mortgage Gold	5	Feb., 1939	120,000.00	97.8	117,360.00
Washington Ry. & Electric Co. Consolidated Mortgage Gold	4	Dec., 1951	450,000.00	83.5	375,750.00
Western Maryland R. R. First Mortgage Gold	4	Oct., 1952	4,130,000.00	59.	2,436,700.00
Western Pacific R. R. First Mortgage Gold Series "A"	5	Mar., 1946	200,800.00	83.	166,664.00
TOTAL BONDS					$82,541,204.44

EXHIBIT J—*Continued*
STOCKS

NAME	NUMBER OF SHARES	FOUNDATION'S LEDGER VALUE PER SHARE	FOUNDATION'S TOTAL LEDGER VALUE
Atchison, Topeka, & Santa Fe Ry. 5% Non-Cumulative Preferred	5,000	$98.25	$491,250.00
Atchison, Topeka, & Santa Fe Ry. Common	21,944	93.18882	2,044,935.53
Atlanta, Birmingham, & Coast R. R. Co. 5% Guaranteed Cumulative Preferred	4,062	94.	381,828.00
The Buckeye Pipe Line Co. Capital (Par $50)	49,693	79.277299	3,939,526.82
Central United National Bank of Cleveland (Par $20) (and Central United Co.) (No par value)	8,104	34.50422	279,622.22
Chehalis & Pacific Land Co. Capital	220		1.00
Chicago City & Connecting Rys. Participation Certificates, Preferred (Certificates of Deposit) (No par value)	17,530		1.00
Chicago City & Connecting Rys. Participation Certificates, Common (No par value)	10,518		1.00
Chicago & Eastern Illinois Ry. 6% Cumulative Preferred	3,000	11.	33,000.00
Cleveland Arcade Co. Capital	2,500	98.6222	246,555.56
Cleveland Trust Co. Capital	638	192.2282	122,641.62
Colorado & Southern Ry. 4% First Non-Cumulative Preferred	4,800	54.	259,200.00
Consolidated Gas Co. of New York, Cumulative Preferred (No par value)	13,333	91.75	1,223,302.76
Consolidation Coal Co. 7% Cumulative Preferred	5,875	20.	117,500.00
Consolidation Coal Co. Common	23,500	1.	23,500.00
Continental Oil Co. (Delaware) Capital (Par $10)	60,627	11.46601	695,149.77
Cumberland Pipe Line Co. Capital (Par $50)	6,000	7.666666	46,000.00
Denver & Rio Grande Western R. R. Co. 6% Cumulative Preferred	3,280	40.	131,200.00

Eureka Pipe Line Co. Capital	12,357	$54.30	$670,985.10
Indiana Pipe Line Co. Capital (Par $10)	74,535	21.7037	1,617,685.28
International Harvester Co. 7% Cumulative Preferred	45,721	115.	5,257,915.00
Interstate Natural Gas Co. Inc. Capital	33,763	14.95845	505,042.25
Kanawha & Hocking Coal & Coke Co. 7% Cumulative Preferred	202	20.	4,040.00
Kanawha & Hocking Coal & Coke Co. Common	668	4.	2,672.00
Manhattan Ry. Capital (Modified Guarantee)	10,000	60.	600,000.00
Missouri-Kansas-Texas R. R. Co. 7% Cumulative Preferred, Series "A"	10,499	41.98228	440,772.00
National Fuel Gas Co. Capital (No par value)	847,060	7.75	6,564,715.00
National Transit Co. Capital (Par $12.50)	126,481	21.50	2,719,341.50
New York Transit Co. Capital (Par $10)	24,784	16.72913	414,614.86
Northern Pipe Line Co. Capital (Par $50)	9,000	45.	405,000.00
The Ohio Oil Co. Capital (No par value)	94,684	35.375	3,349,446.50
The Ohio Oil Co. Non-Voting Cumulative 6% Preferred	15,000	103.5	1,552,500.00
Pere Marquette Ry. Cumulative Preferred	5,740	49.6600627	285,048.76
Provident Loan Society of New York Certificates	266,000	100%	266,000.00
Seaboard Air Line Ry. Common (No par value)	6,825	.50	3,412.50
Seaboard Air Line Ry. Common Stock Purchase Warrants (No par value)	455		
Southern Pipe Line Co. Capital (Par $10)	24,845	6.25	155,281.25
South West Pennsylvania Pipe Lines, Capital (Par $50)	8,000	62.	496,000.00
Standard Oil Co. of Indiana, Capital (Par $25)	691,140	28.90	19,973,946.00
Standard Oil Co. (N. J.) Capital (Par $25)	1,077,005	34.826401	37,508,208.80
The Standard Oil Co. (Ohio) Cumulative 5% Preferred	15,000	101.	1,515,000.00
The Standard Oil Co. (Ohio) Common (Par $25)	135,648	25.50	3,459,024.00
Standard Oil Export Corporation (Delaware) Cumulative 5% Non-Voting Guaranteed Preferred	87,964	99.	8,708,436.00
Tilden Iron Mining Co. Capital	890	27.350258	24,341.73
Underwood Elliot Fisher Co. 7% Cumulative Preferred	2,300	110.	253,000.00

EXHIBIT J—*Continued*

NAME	NUMBER OF SHARES	FOUNDATION'S LEDGER VALUE PER SHARE	FOUNDATION'S TOTAL LEDGER VALUE
Union Tank Car Co. Capital (No par value)	240,000	$6.692033	$1,606,087.97
Western Pacific R. R. Corporation 6% Preferred	28,609	30.	858,270.00
Wilson Realty Co. Capital	591		1.00
TOTAL STOCKS	.....	.....	$109,252,002.78

SUMMARY

Bonds	$82,541,204.44
Stocks	109,252,002.78
TOTAL LEDGER VALUE OF INVESTMENTS	$191,793,207.22

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