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The
Rockefeller Foundation
Annual Report

1930

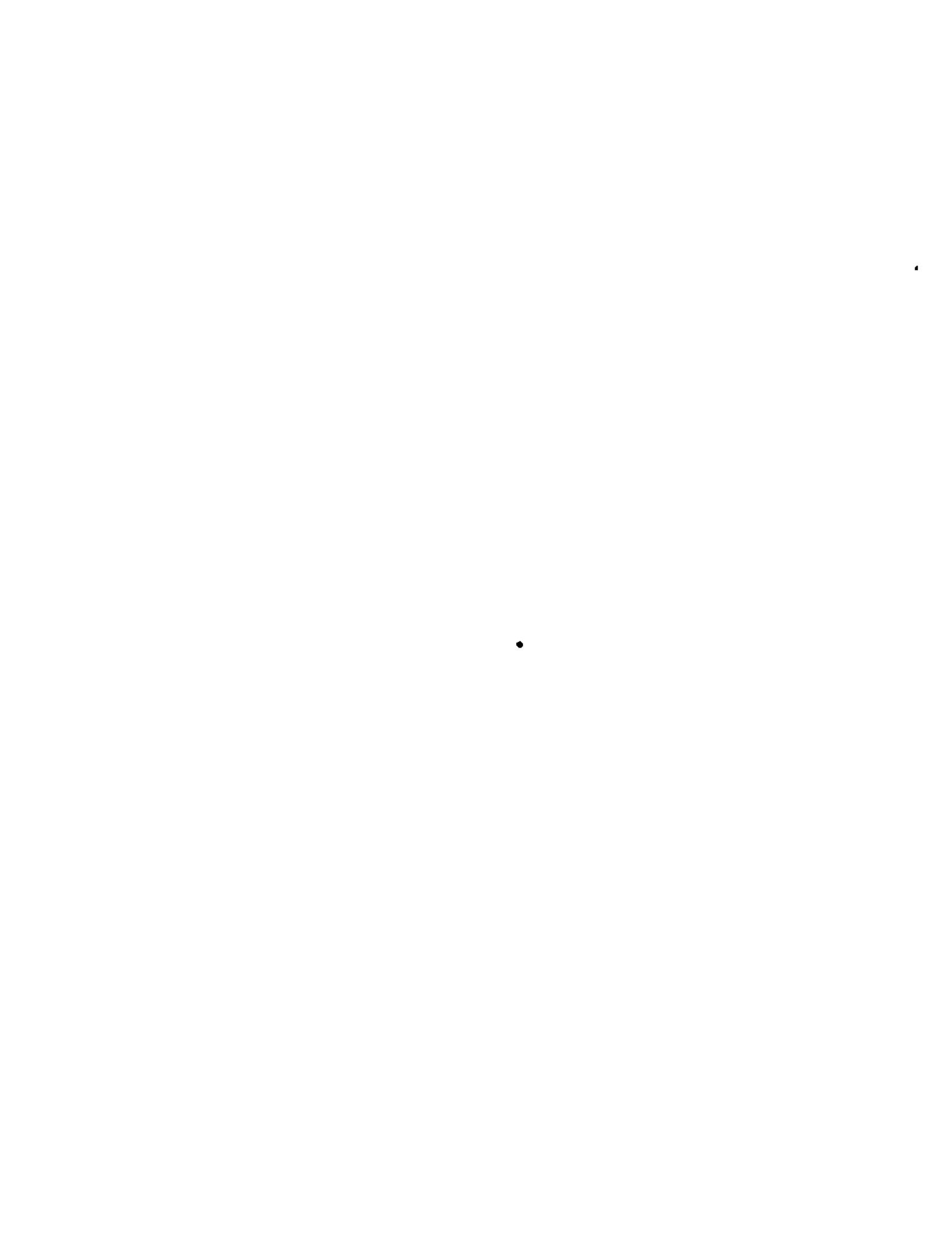
The Rockefeller Foundation
61 Broadway, N. Y.

САХАР
ЯДРОВОГО ГАРМОНИКИ
УЖАДИЕ
ЯДРОВЫЙ

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1930

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1930

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Counsel
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* Resigned August 31, 1931.

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, 1930, to December 31, 1930, 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

RICHARD MILLS PEARCE, JR.

Dr. Richard Mills Pearce, Jr., for ten years director of the Foundation's work in the medical sciences, died in New York February 16, 1930 of heart disease.

Dr. Pearce, who was one of the leading pathologists of the country, was born in Montreal, Canada, March 3, 1874. He received his degree in medicine from the Harvard Medical School in 1897. After serving as resident pathologist at the Boston City Hospital from 1897 to 1899, he was for one year instructor in pathology at the Harvard Medical School, pathologist for St. Elizabeth's Hospital, Boston, and the Boston Floating Hospital, and assistant pathologist at Carney Hospital and the Children's Hospital, Boston. For the next three years he was connected with the University of Pennsylvania, first as demonstrator of pathology and later as assistant professor. During this period he also studied at the University of Leipzig, Germany.

From 1903 to 1908 Dr. Pearce was director of the Bender Laboratory in Albany, professor of pathology and bacteriology at the Albany Medical School, and director of the Bureau of Pathology and Bacteriology of the New York State Department of Health. He also served as pathologist to the Albany Hospital, the Child's Hospital, St. Peter's Hospital, and the Albany City Free Dispensary, and on the advisory council of the New York State Medical Library.

In 1908 he came to New York and was for two years professor of pathology at the New York University and Bellevue Hospital Medical College. He then returned to the University of Pennsylvania, where he served as professor of pathology and research medicine until 1920. He was adviser in medical education to the Rockefeller Foundation from 1916 until 1920, when he joined its staff as director for the medical sciences.

Dr. Pearce was a major in the United States Army Medical Corps during the World War and, in 1917, a member of the medical advisory board of the War Council of the Advisory Research Commission. In 1918 he was chairman of the medical division of the National Research Council.

His special research work was on the pathology and bacteriology of diphtheria and scarlet fever, diseases of the pancreas, nephroly-sins, cytolytic immune serum, liver necrosis, and experimental arteriosclerosis. He was the author of *Studies from the Bender Laboratory* (5 volumes), chapters in Osler's *Modern Medicine* and Keen's *Surgery*, *The Spleen and Anemia*, and *Medical Research and Education*.

Dr. Pearce's service to the Rockefeller Foundation was one of great distinction. For a decade he brought to bear upon its program fine abilities, rich experience, and broad vision. His influence will be carried on in its work for years to come.



Photograph Excised Here

DR. RICHARD M. PEARCE, JR.

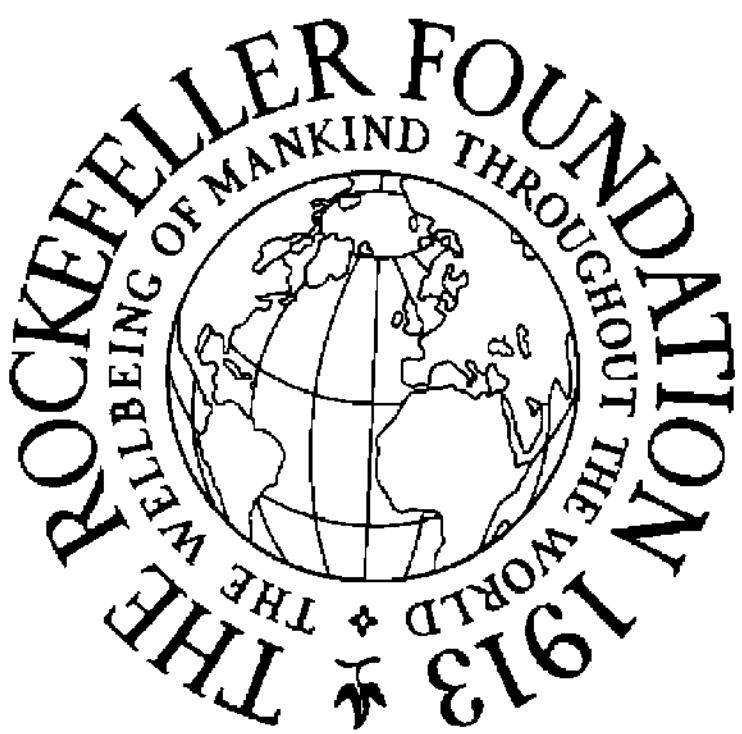
THEODORE B. HAYNE

On July 11, 1930, Dr. Theodore B. Hayne, a member of the field staff of the International Health Division of the Rockefeller Foundation since 1928, died of yellow fever, at Lagos, Nigeria, West Africa, after an illness of only four days. Barely three months before, he had returned to Lagos after a leave of absence spent in the United States. He was engaged in research work on yellow fever at the time he contracted the disease.

Dr. Hayne was born August 3, 1898, in Congaree, South Carolina. His father, Dr. James A. Hayne, is State Health Officer of South Carolina, and young Dr. Hayne, possibly through his father's influence, at an early age became interested in public health work. As a boy of sixteen he spent his summer vacation with the late Dr. Henry R. Carter of the United States Public Health Service, assisting in antimalaria work, and during several subsequent summers continued to give his services to the cause of fighting malaria in the Southern States.

He was a student at the Citadel, the Military College of South Carolina, in Charleston, at the time the United States entered the World War. Soon afterward he left the college to enlist in the aviation corps of the United States Navy. He was still in training when the war came to an end. He then returned to the Citadel to complete his course, and in 1920 received the degree of B.S. in civil engineering. He spent the next two years in field research work in malaria, in Georgia, Alabama, and Mississippi, under the auspices of the United States Public Health Service. In 1923 he entered the Medical College of South Carolina, and in 1927 was granted the degree of M.D., after which he served an internship in the United States Government Hospital at Ancon, Canal Zone.

Dr. Hayne became a special member of the Foundation's field staff, in June, 1928, and was immediately sent to West Africa to assist Dr. Beeuwkes in yellow fever studies. His work there was of great importance, both to science in general and to our knowledge of the malady which exacted this grim sacrifice. In his death the Foundation has lost one of its most brilliant and promising workers.



Photograph Excised Here

Dr. THEODORE B. HAYNL

W. LELAND MITCHELL

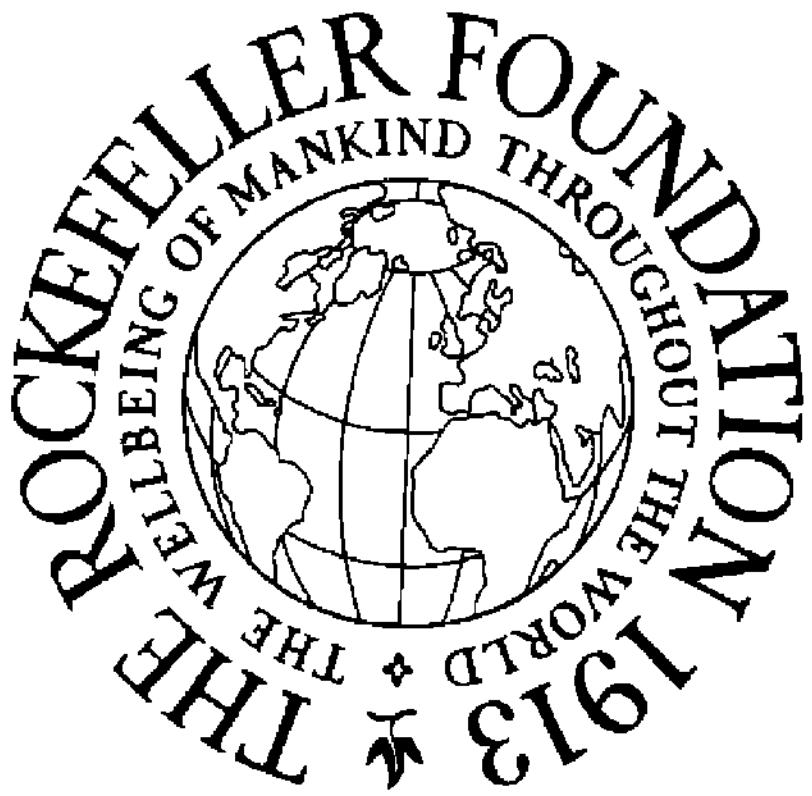
Dr. W. Leland Mitchell, for the past five years a regular member of the field staff of the International Health Division of the Rockefeller Foundation, died of influenza in Budapest, Hungary, on November 20, 1930, after a short illness.

Dr. Mitchell was born in Staunton, Illinois, July 5, 1893. He attended the University of Illinois from 1912 to 1914, and in 1918 received his degree in medicine from the Washington University Medical School in St. Louis, Missouri. From May, 1917, to May, 1919, he was a member of the United States Army Medical Corps, attached to United States Base Hospital No. 21, in Rouen, France. On his return to America he held an internship for eight months in the Barnes School and St. Louis Children's Hospital.

In April, 1920, he was appointed to the staff of the American Red Cross, and during the next two years served with that organization in Eastern Europe, holding successively the posts of chief of the American Red Cross Hospital in Dziakowicza, Montenegro; chief of a relief unit in Jaroslav, Poland; chief of the Surgical Hospital, Bialystok, Poland; inspector for Galicia and Eastern Galicia; and assistant director in Poland.

In September, 1922, he joined the staff of the International Health Board, as a special member, for a period of training in public health work. On the completion of this training, in December of that year, he became health officer of Orange County, California. In January, 1925, he was appointed a regular member of the field staff of the International Health Board and was detailed to Europe for service in connection with the Board's local health program there. During the next five years he participated in important public health projects in Rumania, Yugoslavia, and Hungary. In September, 1929, he came to the United States for a year's study leave at the Johns Hopkins School of Hygiene and Public Health, receiving the degree of D.P.H. at the end of this period. In July, 1930, he returned to his post in Hungary.

In Dr. Mitchell's death the Foundation lost an able and earnest worker, one who influenced the trend of modern preventive medicine in Hungary in no small degree and who rendered a loyal service to the cause of public health in America as well as in Europe.



Photograph Excised Here

DR. W. LEWIS MITCHELL

REPORT OF THE SECRETARY

SECRETARY'S REPORT

The members and trustees of the Rockefeller Foundation during 1930 were:

John D. Rockefeller, Jr., <i>Chairman</i>	
James R. Angell	Max Mason
Trevor Arnett	Julius Rosenwald
John W. Davis	Anson Phelps Stokes
David L. Edsall	Frederick Strauss
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, <i>Chairman</i>	
Trevor Arnett	Charles P. Howland
David L. Edsall	Vernon Kellogg
Raymond B. Fosdick	Frederick Strauss
Jerome D. Greene	Arthur Woods

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

Rufus Cole, M.D., <i>Chairman</i>	
Eugene L. Bishop, M.D.	Edwin O. Jordan, Sc.D.
Wade H. Frost, M.D.	Waller S. Leathers, M.D.
	Wilson G. Smillie, M.D.
Frederick F. Russell, M.D., <i>Director of the Division, Secretary</i>	

Meetings

Regular meetings of the Rockefeller Foundation were held on April 16 and December 10, 1930. Nine meetings of the Executive Com-

mittee were held during the year to execute programs within general policies approved by the Trustees.

The officers of the Foundation during 1930 were:

John D. Rockefeller, Jr.	<i>Chairman, Board of Trustees</i>
Max Mason	<i>President</i>
Thomas B. Appleget	<i>Vice-President in the New York Office</i>
Selskar M. Gunn	<i>Vice-President in Europe</i>
Richard M. Pearce, M.D.*	<i>Director for the Medical Sciences</i>
Herman A. Speehr†	<i>Director for the Natural Sciences</i>
Edmund E. Day	<i>Director for the Social Sciences</i>
Edward Capps‡	<i>Director for the Humanities</i>
Frederick F. Russell, M.D.	<i>Director, International Health Division</i>
Norma S. Thompson	<i>Secretary</i>
Louis Guerineau Myers	<i>Treasurer</i>
George J. Beal	<i>Comptroller</i>
Thomas M. Debevoise	<i>Counsel</i>

Financial Summary

The following is a summary of receipts and disbursements of the Foundation in 1930. 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 1930, remainders of which were payable during succeeding years.

* Died February 16, 1930.

† From September 1, 1930.

‡ Retired June 30, 1930.

**Statement of Funds Available and Disbursements
During the Year 1930**

FUNDS AVAILABLE:

Balance available December 31, 1929

To meet appropriations, pledges, authorizations, and contingent obligations.....	\$67,402,016.93
Available for appropriation.....	3,095,814.08
	<hr/>

\$70,497,831.01

Authorizations allowed to lapse, reverting to the Principal Fund...	1,302,056.45
	<hr/>

\$69,195,774.56

Income

January 1 to December 31, 1930.....	12,435,558.06
	<hr/>

\$81,631,332.62

DISBURSEMENTS:Universities and other educational
institutions

Medical science.....	\$559,417.98
Public health.....	58,672.63
Nursing.....	69,407.96
Social science.....	642,001.17
Natural science.....	<i>Cr. 198,878.00</i>
Departmental development.....	361,500.49
Research programs.....	1,368,744.40
Land and buildings.....	3,103,796.68

Research institutions and organiza-
tions

Medical science education.....	2,822.29
General development.....	682,646.59
Research programs.....	607,470.58
Land and buildings.....	726,847.00
Special committees and commissions	175,865.34
Fellowships and grants in aid.....	1,180,251.60
Miscellaneous.....	679,062.52
Public health.....	2,769,399.17
General.....	2,067,506.76
Administration.....	872,103.68
	<hr/>
	15,728,638.84

BALANCE:

To meet appropriations, pledges, and authorizations.....	\$61,176,746.00
Available for appropriations.....	4,725,947.78
	<hr/>
	\$65,902,693.78

Summary of Expenditures in 1930

UNIVERSITIES AND OTHER EDUCATIONAL INSTITUTIONS

Medical Science Education

Albany Medical College, Albany, New York.....	\$20,000.00
China Medical Board, Inc., New York City.....	344,000.00
Chulalongkorn University, Bangkok, Siam.....	48,657.45
National Central University, Shanghai, China....	22,459.36
Peiping Union Medical College, Peiping, China....	47,056.26
Shantung Christian University, Tsinan, China....	28,675.63
University of Montreal, Canada.....	25,000.00
Miscellaneous.....	23,569.28

\$559,417.98

Public Health Education

All-India School of Hygiene and Public Health, Calcutta, India.....	\$22,000.00
University of the Philippines, Manila.....	27,672.63
University of Zagreb, Yugoslavia.....	9,000.00

\$58,672.63

Nursing Education

St. Luke's International Hospital, Tokyo, Japan...	\$10,349.38
University of Cracow, Poland.....	6,208.18
Vanderbilt University, Nashville, Tennessee.....	31,000.00
Warsaw State School of Nursing, Poland.....	5,000.00
Yale University, New Haven, Connecticut.....	7,471.85
Miscellaneous.....	9,378.55

\$69,407.96

Social Science Education

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.....	10,500.00
University of Chicago, Illinois.....	547,450.00
Western Reserve University, Cleveland, Ohio.....	23,750.00
Yenching University, Peiping, China.....	22,462.35
Miscellaneous.....	12,838.82

\$642,001.17

Natural Science Education

Fukien Christian University, Foochow, China..	\$5,559.38
Lingnan University, Canton, China.....	9,398.75
Yenching University, Peiping, China.....	Cr. 216,638.70
Miscellaneous.....	2,802.57

Cr. \$193,873.00

Departmental Development

Harvard University, Cambridge, Massachusetts...	\$95,187.85
Keio Gijuku University, Tokyo, Japan.....	15,650.88
New York School of Social Work.....	25,000.00
Northwestern University, Evanston, Illinois.....	20,000.00
Tohoku Imperial University, Sendai, Japan.....	9,006.00
University of California, Berkeley.....	16,250.00
University of Chicago, Illinois.....	39,905.76
Yale University, New Haven, Connecticut.....	132,500.00
Miscellaneous.....	8,000.00
	<hr/>
	\$361,500.49

Research Programs

Columbia University, New York City	\$204,226.67
Cornell University, New York	12,500.00
Harvard University.....	90,196.70
Harvard University and Radcliffe College.....	51,657.23
Johns Hopkins University, Baltimore, Maryland...	65,700.00
London School of Economics and Political Science, England.....	19,438.75
McGill University, Montreal, Canada.....	25,000.00
Peiping Union Medical College.....	21,321.42
Stanford University, Stanford, California.....	67,500.00
University of California.....	20,000.00
University of Chicago.....	192,635.24
University of Denver, Colorado.....	8,955.51
University of Hawaii, Honolulu.....	35,000.00
University of Liverpool, England.....	10,000.00
University of North Carolina, Chapel Hill.....	45,000.00
University of Pennsylvania, Philadelphia.....	58,945.40
University of Rochester, Rochester, New York...	48,091.06
University of Stockholm, Sweden.....	11,250.00
University of Texas, Austin.....	50,000.00
University of Toronto, Canada.....	16,000.00
University of Vermont, Burlington.....	31,318.35
University of Virginia, Charlottesville.....	65,451.37
Washington University, St. Louis, Missouri.....	40,000.00
Yale University.....	178,556.70
	<hr/>
	\$1,368,744.40

Land and Buildings

All-India School of Hygiene and Public Health...	\$254,000.00
American University of Beirut, Syria.....	130,000.00
Peiping Union Medical College.....	19,613.68
State Central School of Nursing, Budapest, Hun- gary.....	50,000.00
Tsing Hua University, Peiping, China.....	29,939.79
University of Chicago.....	667,951.03

University of Lyon, France.....	\$496,171.96
University of Nancy, France.....	12,536.64
University of the Philippines.....	2,481.25
Yale University.....	1,441,102.33
	<hr/>
	\$3,103,796.68

RESEARCH INSTITUTIONS AND ORGANIZATIONS

Medical Science Education	
China Medical Association.....	\$2,822.29
	<hr/>

General Development

American Historical Association, Washington, D.C.	\$8,923.92
American Schools of Oriental Research, Baghdad and Jerusalem.....	35,000.00
Bermuda Biological Station for Research, Inc.....	243,265.63
Brookings Institution, Inc., Washington, D. C.....	75,000.00
Economic Foundation, New York City.....	50,000.00
Institute of International Affairs, Hamburg, Ger- many.....	8,000.00
National Bureau of Economic Research, New York City.....	56,998.47
Postgraduate Institute of International Studies, Department of Public Instructions of the Canton of Geneva, Switzerland.....	85,000.00
Social Science Research Council, New York City..	55,000.00
Woods Hole Oceanographic Institution, Woods Hole, Massachusetts.....	34,654.16
Miscellaneous.....	30,804.41
	<hr/>
	\$682,646.59

Research Programs

American Law Institute, Philadelphia	\$26,259.40
Association of American Medical Colleges, Chicago	10,000.00
Australian National Research Council, Sydney, Australia.....	9,529.29
Bernice P. Bishop Museum, Honolulu, Hawaii....	10,000.00
Canadian National Committee for Mental Hygiene	25,234.38
Council on Foreign Relations, New York City.....	30,000.00
Detroit Bureau of Governmental Research, Inc., Michigan.....	9,034.18
Economic Foundation, New York City.....	13,455.17
Institute for Social and Political Science, University of Heidelberg, Germany.....	11,409.96
Institute of Pacific Relations, Honolulu, Hawaii...	33,499.70
Massachusetts Department of Mental Diseases,	24,063.08
Massachusetts Society for Mental Hygiene, Boston	19,960.92
National Research Fund, Washington, D. C.....	100,000.00

Social Science Research Council, New York City...	\$177,065.44
Welfare Council of New York City.....	70,000.00
Miscellaneous.....	<u>37,959.06</u>
	<u>\$607,470.58</u>

Land and Buildings

- Kaiser Wilhelm Gesellschaft, Berlin, Germany....	\$276,747.00
Woods Hole Oceanographic Institution.....	<u>450.100.00</u>
	<u>\$726,847.00</u>

SPECIAL COMMITTEES AND COMMISSIONS

Cambridge University, Library Commission.....	\$4,279.17
Committee on Cost of Medical Care, Washington, D. C.....	<u>55,000.00</u>
Committee on Grading of Nursing Schools, New York City.....	5,000.00
Oxford University, Library Commission.....	5,917.97
President's Conference on Unemployment, Washing- ton, D. C.....	6,592.86
President's Research Committee on Social Trends, Washington, D. C.....	<u>99,075.34</u>
	<u>\$175,865.34</u>

FELLOWSHIPS AND GRANTS IN AID

American Council of Learned Societies, Washington, D. C.....	\$66,308.33
Australian National Research Council.....	7,823.09
Developmental and Laboratory Aid in Europe.....	19,698.75
Fellowships administered by the Foundation.....	397,673.89
Medical Research Council, Great Britain.....	12,357.69
National Committee for Mental Hygiene, New York City.....	13,342.76
National Research Council, Washington, D. C.	
Fellowships.....	294,746.36
Research aid fund.....	75,000.00
Notgemeinschaft der Deutschen Wissenschaft, Berlin, Germany.....	12,678.03
Peiping Union Medical College.....	19,024.73
Research aid funds, medical and natural sciences....	120,854.44
Social Science Research Council.....	121,566.25
Visits of commissions and individuals.....	17,043.47
Miscellaneous.....	<u>2,133.81</u>
	<u>\$1,180,251.60</u>

MISCELLANEOUS

American Type Culture Collection.....	\$10,000.00
Bulletins and reprints.....	20,089.77
Encyclopaedia of the Social Sciences.....	155,647.22

Hospitals in China.....	\$29,424.61
Humanistic studies in Europe.....	11,126.39
National Research Council, Washington, D. C.....	87,522.44
New York Academy of Medicine, New York City....	250,000.00
Social Science Research Council.....	79,308.84
Miscellaneous.....	35,943.25
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	\$679,062.52

PUBLIC HEALTH

Regular program of the International Health Division in state and local health work, public health education, control of specific diseases, investigations....	\$2,466,106.69
Central Institute of Hygiene in the Turkish Republic, Angora.....	100,000.00
Development of child health measures in county health programs in cooperation with United States Public Health Service.....	61,213.04
Institute of Public Health, Sofia, Bulgaria.....	89,710.69
Institute of Hygiene and Public Health, Rome, Italy.	52,368.75
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	\$2,769,399.17

GENERAL*

Agricultural Club Work in Sweden and Finland	\$51,741.65
American Association for Adult Education, New York City.....	18,597.26
American Association of Museums, Washington	54,501.76
American Home Economics Association, Washington	27,599.56
American Library in Paris, France.....	23,278.23
Boy Scouts of America, New York City.....	22,580.26
Child Study Association of America, New York City	30,000.00
Child Study Fellowship Program.....	11,476.18
Commission on Interracial Cooperation, Atlanta, Georgia.....	46,660.70
East Harlem Health Center, Inc., New York City...	43,575.00
Fisk University, Nashville, Tennessee.....	112,102.76
Institute of International Education, New York City.	24,000.00
League of Red Cross Societies, Paris.....	10,000.00
National Urban League, New York City.....	17,575.84
Neighborhood Teacher Association, New York City.	11,677.75
Playground and Recreation Association of America, Inc., New York City.....	118,163.49
Regents of the University of the State of New York..	20,000.00
Riverside Church, New York City.....	100,000.00
Russian Zemstvos and Towns Relief Committee, Paris, France.....	15,000.00
Society of the New York Hospital, New York City...	556,000.00

*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.

SECRETARY'S REPORT

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State Charities Aid Association, New York.....	\$36,202.74
State University of Iowa, Iowa City.....	123,833.22
Teachers College, Columbia University, New York City.....	100,000.00
University of California.....	52,566.22
University of Chicago.....	12,500.00
University of Minnesota, Minneapolis.....	84,770.28
University of North Carolina.....	16,000.00
University of Toronto.....	12,500.00
Young Men's Christian Association, New York City.	46,642.09
Y. M. C. A. and Y. W. C. A. International Survey Committee, New York City.....	117,632.45
Miscellaneous.....	150,329.32
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	\$2,067,506.76

ADMINISTRATION

Maintenance of New York, European, and Peiping offices.....	\$872,103.68
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	\$15,728,638.84

Funds and Property

As of December 31, 1930

PRINCIPAL FUND

Balance in the Rockefeller Foundation	
Principal Fund as of December 31, 1929.....	\$147,373,921.68
Authorizations allowed to lapse, reverting to the Principal Fund.....	1,302,056.45
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	\$148,675,978.13
Less amount transferred to a reserve for contingent projects in accordance with a resolution of the Board of Trustees dated April 16, 1930.....	6,000,000.00
	<hr/>
Balance, December 31, 1930.....	\$142,675,978.13

LAND, BUILDINGS, EQUIPMENT

In China:

Shanghai Medical School. Land \$298,331.95

In New York:

Furniture and equipment of
offices..... 48,363.56

In Paris:

Part interest in building occupied by Paris office.....	68,000.00	\$414,695.51
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		\$143,090,673.64

INTERNATIONAL HEALTH DIVISION

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INTERNATIONAL HEALTH DIVISION

Field Research in Public Health

The Accretion of Knowledge

Over two decades ago the Rockefeller Sanitary Commission undertook a study of certain definite public health problems in the southern part of the United States. Looking backward over the intervening twenty years, in the course of which the Rockefeller Foundation, in cooperation with governments and other agencies, has extended to many parts of the world the work begun by this commission, we find that the most striking feature of the program which has been carried out has been the steady building up of detailed knowledge both of public health problems themselves and of the best methods of dealing with them. The final word on any one of the many diseases involved in public health work is never written, but each year a little more light is shed on the way certain diseases behave in various parts of the world.

Looking backward much farther, we find that the far-reaching effect of fundamental knowledge was recognized very long ago indeed. In the sayings of Confucius we find the following:

The ancients, who wished to exemplify illustrious virtue throughout the Empire, first ordered well their own states. Wishing to order well

their own states, they first regulated their families. Wishing to regulate their families, they first cultivated their persons. Wishing to cultivate their persons, they first rectified their hearts. Wishing to rectify their hearts, they first sought to be sincere in their thoughts. Wishing to be sincere in their thoughts, they first extended to the utmost their knowledge. Such extension of knowledge lay in the investigation of things.

Things being investigated, knowledge became complete. Their knowledge being complete, their thoughts were sincere. Their thoughts cultivated, their families were regulated. Their families being regulated, their states were rightly governed. Their states being rightly governed, the whole Empire was made tranquil and happy.

It cannot be, when the root is neglected, that what should spring from it will be well ordered.

In the history of public health we first come to the highways and then to the byways. On the highways of medicine lie the great medical schools and research centers as well as the large municipal health departments whose staffs early learned to take care of the problems involved in water-supply, sanitation, general cleanliness, and health preservation associated with large centers of population. Beyond the highways lie the byways, the large stretches of rural country and the small centers of population. In recent years health activities of all kinds have tended to flow out into the byways and to make up for lost time in providing the countryside with some of the same health safeguards to which cities have been accustomed. But the problems are frequently different and there is much to be learned.

Position of the Rockefeller Foundation

Because of its world-wide public health activities the Rockefeller Foundation is in a unique

position to increase human knowledge by collecting, collating, and studying facts concerning various diseases in many parts of the world. In the case of some diseases, notably yellow fever, field collections and data are gathered from remote parts of the earth and carefully studied in the home laboratory. All results of researches by members of the field staff of the Foundation or by persons working under the auspices of the Foundation are embodied in articles which appear in various journals of the medical press. During 1930 fifty-seven such articles were published. Some of these articles, as well as others published in the early part of 1931, are referred to in the account which follows.

In field research in public health no attempt is made to include the entire scope of public health; instead, there is concentration on a number of specific diseases. In the case of hookworm disease, malaria, and yellow fever, field research is combined with control work, although in a number of countries the Foundation no longer provides financial aid toward control but merely continues to give advisory service.

The Foundation's program, then, involves two major lines of effort, one concerned with research in the field and one with aid toward the establishment of well-rounded efficient local health organizations, backed by government authorities

and functioning with the active cooperation of the population. Aid of the latter type frequently takes the form of contributions toward the support of a health demonstration in a representative and carefully chosen area. Such a demonstration brings home the value of health work and serves as a model for surrounding areas.

Diseases have been studied in the past in hospitals, clinics, and medical schools, for the most part in urban centers where there are large aggregates of population. It is a somewhat new phase to go out into the field and gather knowledge about widespread maladies, such as occur mostly among rural populations (hookworm disease, malaria, pellagra) or such scourges as are not respecters of locality and occur alike in town and country (yellow fever, tuberculosis, and the common cold). On this aspect of public health work the Foundation has laid particular emphasis in recent years.

Yellow Fever

Light Cases of Yellow Fever in Africa

Research in yellow fever falls into two epochs, each initiated and made possible by an historic discovery. The first discovery occurred in 1900, when the Yellow Fever Commission of the United States Army, under Major Walter Reed, proved that the common Stegomyia mosquito of

the Tropics, *Aedes aegypti*, is responsible for the transmission of yellow fever. The second discovery was announced in 1928, when Stokes, Bauer, and Hudson published a paper showing that certain species of monkey, especially *Macacus rhesus*, are susceptible to yellow fever and therefore suitable as experimental animals. This ended the necessity of human volunteers for experimental purposes such as had made possible the progress of 1900.

One of the uses to which this experimental animal was immediately put was that of helping to find out whether a person had or had ever had yellow fever. The blood serum of a person who has had yellow fever, no matter if the attack of the disease occurred a long time ago, will protect monkeys from the effects of inoculation with yellow fever virus. We are thus provided with a laboratory method of ascertaining whether a person has at any time had yellow fever.

In applying this test to a considerable number of African natives the discovery was made that a large percentage of them must at some time have had yellow fever, since even a minute quantity of their blood serum was sufficient to protect monkeys. As these persons frequently did not remember having had yellow fever at all, the conclusion is inescapable that they must have had it in a light form.

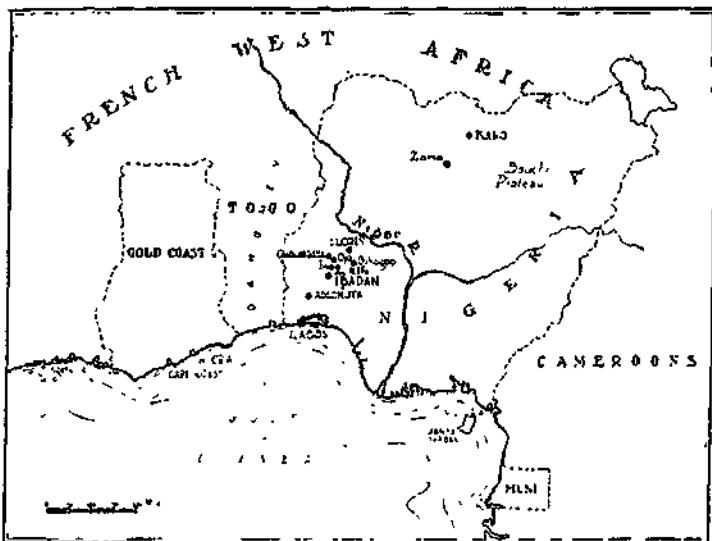
The important part played by the African native in the perpetuation of yellow fever has long been suspected. Sir Rubert Boyce, who wrote a book on yellow fever in 1911, was of the opinion that the African native is as saturated with yellow fever as he is with malaria. It is one thing, however, to believe this, and it is another to prove it. And it is still harder to delimit exactly the areas in which yellow fever occurs. A careful attempt to find out something definite about this reservoir of light cases was reported in a paper by Beeuwkes, Bauer, and Mahaffy, published in 1930. Three factors are necessary for the continued presence of yellow fever in any region: the causative agent, which is the virus; the transmitting agent, which is the mosquito; and a susceptible population, which means people who have not had yellow fever before. That a person who has once had yellow fever is no longer susceptible has been confirmed by recent work. From the fact that a susceptible population is a necessary factor in the continuance of yellow fever it can be deduced in a general way that the permanent endemic areas of the disease should be sought not in the small towns or isolated sections but rather in the more densely populated areas and especially in large cities or groups of towns in close communication with one another.

On theoretical grounds it was decided that the region most suitable for a survey in which animals were to be used to determine the index of yellow fever was a unique and densely populated area of Nigeria northeast of the city of Lagos, which has as its center the large city of Ibadan, with 250,000 inhabitants, and around this, four cities of 100,000 each, three more of 50,000 each, and a fairly large number of towns ranging in population from 10,000 to 50,000. (See map, page 35.)

Starting in Ibadan, specimens of blood were taken at random from 100 native-born inhabitants. By the animal test described above it was found that 32 per cent of these persons had had yellow fever at one time or another. Next there was chosen a city of 83,000 population. Ilorin, from which yellow fever had never been definitely reported. Specimens of blood were collected there from twenty-five persons, and six of these were shown to have had yellow fever. What was still more striking, in Ife, a city of 30,000 inhabitants, where an epidemic of yellow fever was known to have occurred in 1928, seventeen out of twenty-five persons, or 68 per cent, were found to have had yellow fever. This completed the test in large cities and abundantly confirmed the presence of yellow fever in these considerable aggregates of population.

It remained to test some of the comparatively isolated small towns further to the northeast and further away from the coast, in which, according to the theory, yellow fever would not be so likely to occur. Thirty-six samples of blood were collected from persons living on the Bauchi Plateau in a number of towns, none of more than 8,000 inhabitants. All of these persons belonged to the small farming class and had never traveled far from their homes. Results were negative. None had had yellow fever. In Zaria and Kano, two larger cities of the far north, the blood serum of fifty-four persons was tested. In Zaria results were negative; in Kano, the northern terminus of the Lagos-Kano Railroad, one person was found to have had yellow fever.

One of the first uses, therefore, to which the new laboratory animal was put was to furnish proof of the extent to which a mild form of yellow fever has been prevalent in certain parts of Africa. It was amply shown that some of the large cities in Africa constitute reservoirs of yellow fever, with occasional epidemics evidently arising from native populations; and presumably the same situation exists in other parts of the world. It should be noted that the mild form of yellow fever seems to occur chiefly in native children, among whom this disease plays somewhat the same rôle that measles does among



Location of Ibadan and the surrounding towns, where protection tests were carried out to determine whether yellow fever had been present.



Photograph Excised Here

Animal house of the Foundation's yellow fever laboratory at Lagos, Nigeria, West Africa.

white children. Nor does the presence of this mild form preclude recurrent outbursts of the disease in more virulent form, even among the black race, in places where only a small part of the population, or none, have become immune in childhood. A considerable influx of native people not immune to yellow fever increases the likelihood of such epidemics.

The reservoirs of yellow fever, consisting of native populations in endemic areas, offer a constant menace which, however, is not extremely serious so long as travel is limited. In recent times there has appeared to be little danger that yellow fever would be carried to distant parts of the world from these endemic areas, but the advent of the airplane may conceivably change the situation. Steamships, if the trip is longer than six days, do not seem to carry yellow fever.

The fear has often been expressed that yellow fever virus might find its way into some of the densely populated parts of Asia, such as the Malay Peninsula and the surrounding islands, or India with its population of 320,000,000. In all these regions the *Stegomyia* mosquito occurs. Yellow fever has never been present, and the population is therefore undoubtedly susceptible. A number of actual tests made by scientists have shown that the *Stegomyia* mosquito of these



Photograph Excised Here

Straining out mosquito larvae from water stored in native homes,
Nigeria, West Africa.



Photograph Excised Here

Squad employed to collect adult mosquitoes for laboratory studies and
experiments, Nigeria, West Africa.

regions can transmit the virus to monkeys. The stage is therefore all set for the introduction of the virus, which, once it reached this part of the world, might work untold havoc. With the development of international airplane lines, the time is at hand when a plane may visit an endemic area either in Africa or Brazil, and may pick up the yellow fever virus and transfer it to a distant place. Public health authorities are aware of the danger. At a recent Pan-American conference of public health directors this subject was given special attention.

Beeuwkes, Henry, J. H. Bauer, and A. F. Mahaffy. Yellow Fever Endemicity in West Africa, with Special Reference to Protection Tests. *American Journal of Tropical Medicine*, 10: 305-333 (Sept.) 1930.

Bauer, J. H., and N. P. Hudson. The Duration of Immunity in Human Yellow Fever as Shown by the Protective Power of the Serum. *Journal of Preventive Medicine*, 4: 177-178 (May) 1930.

Ramsey, G. H. Yellow Fever in Senegal, with Special Reference to the 1926 and 1927 Epidemics. *American Journal of Hygiene*, 13: 129-163 (Jan.) 1931.

Incidence and Control of Yellow Fever

In West Africa overt yellow fever was little in evidence during 1930. Only three cases were reported, two from the Gold Coast and one from Nigeria. The one in Nigeria was a laboratory infection. Of infections of this sort more will be said in a subsequent section. In Northern Brazil one death from yellow fever was reported in Belém, Pará, and the reports of the Founda-

tion's field staff mention three others discovered through the routine autopsy service which the yellow fever laboratory at São Salvador offers to physicians, with the hope of bringing to light unsuspected cases of yellow fever which have occurred among native Brazilians. In Southern Brazil the National Health Department successfully combated the Rio de Janeiro epidemic of 1929, and no cases of yellow fever were reported from the city of Rio de Janeiro after July of that year. From the towns in the interior a total of seven positive and two suspected cases were reported in 1930. These occurred in the following towns: Cambuey, Campos, Magé, Nictheroy (suspected), Padua, and Pureza, all in the state of Rio de Janeiro, and Quixada in Ceará.

In the northern sector of Brazil the Rockefeller Foundation took part in work in the states of Bahia, Sergipe, Alagôas, Pernambuco, Paraíba do Norte, Rio Grande do Norte, Ceará, Maranhão, and Pará. Control measures in these states included antilarval work in and about buildings, with special attention to vacant houses and lots and to roof gutters. In the larger capitals there were maritime squads to take care of boats in the harbors and the docks. Every attempt was made to obtain the cooperation of property owners and residents in correcting any conditions by which the yellow fever mosquito

might be afforded facilities for breeding. Improvements made by the house owners themselves were shown by experience to be more productive of lasting results than those made by employees of the yellow fever service.

The yellow fever mosquito is entirely a domestic insect in the sense that it breeds in water containers, deposits, or receptacles in or near human domiciles. Wherever water is stored in jars and casks the danger from *Stegomyia* breeding mounts unless such containers are carefully screened. In Brazil an elaborate service by which these water containers are periodically inspected, sealed, and rendered safe, is maintained. Many water deposits are stocked with fish which devour the mosquito larvae. Top-feeding fish are placed in the fountains and bottom-feeders in the cisterns and other deposits. In the state of Ceará alone, during the year, 207,101 fish were distributed to 84,998 deposits.

These control measures have been devised for towns and areas which do not have piped water-supplies. The logical method of getting rid of yellow fever is the provision of a piped water-supply that is available at any hour of the day or night in sufficient quantity to obviate the need for storing water in artificial containers. There is plenty of evidence to show that yellow fever disappears when an adequate piped water-supply

is introduced. It vanished from the United States with the installation of such supplies, and there is every reason to believe that similar results can be accomplished in Brazil and Africa. In West Africa this has already been done in Freetown, a city of about 50,000 inhabitants, in Sierra Leone. Here outbreaks of yellow fever appeared with monotonous regularity up to 1910, when a final and fairly large epidemic occurred. At that time successful efforts were made to improve the sanitary condition by a new system of drainage, by filling marshes, by the elimination of many wells, cisterns, and other breeding places of the *Stegomyia* mosquito, and above all by the development of a piped water-supply. There has been ample opportunity for the reintroduction of the disease both by land and sea since that time. Epidemics have occurred in most of the surrounding territories during recent years. But Freetown, formerly called the "white man's grave" because of its reputation for yellow fever, has had no further outbreaks.

A New Laboratory Animal

In 1926 and early in 1927 numerous African monkeys of different species were inoculated with yellow fever virus with persistently negative results. Later in 1927 an Asiatic species of monkey, the *Macacus rhesus*, was successfully

inoculated and, as has been seen, this animal has been used to great advantage in the discovery and diagnosis of light cases of yellow fever in human beings. It has also proved useful for further tests of the susceptibility of animals of other species. Infected rhesus monkeys supplied the highly virulent blood for inoculating these animals, and normal rhesus monkeys were useful for testing their blood or tissues to determine whether infection had been established.

Certain Brazilian species, popularly known as the woolly, spider, and squirrel monkeys, all reacted in some degree to yellow fever virus, and the serum of animals recovered from an attack of the disease had a certain protective action against yellow fever virus in *Macacus rhesus*.

It was shown also that after yellow fever virus had been introduced into two species of Brazilian marmosets, mosquitoes biting these marmosets were able to transmit the infection to rhesus monkeys. The fact that the virus of yellow fever can be passed through marmosets with comparative ease may have some importance in connection with the spread of yellow fever in nature, as these little monkeys are frequently kept as household pets and wild ones are often found on uncleared land within urban limits. There is no epidemiological evidence, however, that the disease has ever been spread by these

animals. In a later study, Brazilian monkeys of three other species were found to develop protective substances in the blood following inoculation with yellow fever virus. Similarly, four of the common monkey species of Nigeria, West Africa, were studied, and it was shown that the virus persisted for a number of days in all except one species, and that the blood serum of three species, taken after experimental infection, protected rhesus monkeys against relatively large doses of the virus. In all, then, several species of monkey were found to be more or less susceptible to yellow fever.

At this stage a study was made of certain other animals, supposedly refractory to the virus of yellow fever, with a view to determining whether they would develop protective substances in their blood following injection of the virus. It was concluded that the bullfrog is wholly insusceptible and incapable of producing antibodies, but that certain other animals, such as the ferret, the guinea-pig, the rabbit, and the hen are in an intermediate position, since all reacted to large injections of the virus by producing protective antibodies but ordinarily showed no symptoms or lesions recognizable as those of yellow fever.

In July, 1930, Dr. Max Theiler, of the Harvard Medical School, announced the important discoveries that white mice are susceptible to

yellow fever if inoculated intracerebrally and that a fixed virus for mice, with shortened incubation period and heightened virulence, can be produced by repeated passage through these animals. The disease produced in mice by yellow fever virus is different from that produced by the virus in monkeys and man. It takes the form of an encephalitis. However, if brain tissue from an infected mouse is injected into a normal monkey the latter will have yellow fever in its ordinary form. Adult mice can not as a rule be infected by subcutaneous, intraperitoneal, or intramuscular inoculation of yellow fever virus, which accounts for the failure of others to discover the susceptibility of the mouse. Other animals may prove to be susceptible when studied by methods similar to those applied by Dr. Theiler, and it is possible that the list of susceptible animals will grow. The experimental work with mice was continued under Rockefeller Foundation auspices, with the promising result that in all likelihood a much smaller, less expensive, and more manageable animal will be available as an aid in delimiting the large areas where yellow fever is now occurring in light form.

In a second publication Dr. Theiler described experiments in which convalescent human yellow fever sera were tested for protective substances against yellow fever virus adapted to mice.

This aspect of the work was continued by Drs. Sawyer and Lloyd with the object of attaining a more sensitive test which would give less irregular results. There was developed successfully a modified method known as the intraperitoneal protection test in mice.

- Sawyer, W. A., and Martin Frobisher, Jr. The Reactions of Various Animals to Yellow Fever Virus. In press.
- Davis, N. C. The Transmission of Yellow Fever. Experiments with the "Woolly Monkey" (*Lagothrix lagotricha* Humboldt), the "Spider Monkey" (*Ateles ater* F. Cuvier), and the "Squirrel Monkey" (*Saimiri scireus* Linnaeus). *Journal of Experimental Medicine*, 51: 703-720 (May 1) 1930.
- Bauer, J. H., and A. F. Mahaffy. The Susceptibility of African Monkeys to Yellow Fever. *American Journal of Hygiene*, 12: 155-174 (July) 1930.
- Davis, N. C. The Susceptibility of Marmosets to Yellow Fever Virus. *Journal of Experimental Medicine*, 52: 405-415 (Sept. 1) 1930.
- Davis, N. C. The Transmission of Yellow Fever. Further Experiments with Monkeys of the New World. *American Journal of Tropical Medicine*, 11: 113-125 (March) 1931.
- Theiler, Max. Studies on the Action of Yellow Fever Virus in Mice. *Annals of Tropical Medicine and Parasitology*, 24: 249-272 (July 8) 1930.
- Theiler, Max. Neutralization Tests with Immune Yellow Fever Sera and a Strain of Yellow Fever Virus Adapted to Mice. *Annals of Tropical Medicine and Parasitology*, 25: 69-77 (March 31) 1931.
- Sawyer, W. A. Recent Progress in Yellow Fever Research. DeLamar Lecture. To be published in *Medicine*.
- Sawyer, W. A., and Wray Lloyd. The Use of Mice in Tests of Immunity against Yellow Fever. In press.

Experiments with Mosquitoes

Since the discovery in the *Macacus rhesus* of a laboratory animal susceptible to yellow fever, it has been possible to make extensive investigations of the part played by the mosquito in perpetuating and disseminating the disease. One of the most important problems has been to

determine whether mosquitoes other than *Aedes aegypti* can be regarded as possible vectors of the disease. Members of the staff of the International Health Division, working in the Division's laboratories in Brazil and West Africa, have definitely incriminated ten other species. In the case of these ten species the disease was transmitted by the mosquitoes from monkey to monkey by biting. In eight species the ground-up bodies injected subcutaneously into *Macacus rhesus* also proved infective, and ten other species in which ability to transmit the fever by biting had not been established proved infective upon injection. Mosquitoes of six different genera were investigated in these experiments.

While the fight against yellow fever has heretofore proved efficacious in America when centered about control of the *Aedes aegypti* alone, increasing information on West African conditions indicates a considerable complexity of factors in that region. It may well be that certain of the potential vectors mentioned play a rôle in the dissemination of yellow fever there. This seems all the more likely in view of the fact that infected persons are probably capable of infecting insect carriers at least a day before the appearance of clinical symptoms. It has been shown that experimentally infected monkeys may infect mosquitoes one or two days before



Photograph Excised Here

Sanitary inspector searching for larvae of the yellow fever mosquito in the roof gutter of a Brazilian house.

Oiling a dock gutter at a Brazilian port as a precaution against mosquito breeding.



Photograph Excised Here

Squad employed to prevent mosquito breeding in unoccupied houses in Pernambuco, Brazil.

the onset of fever. If the infective period in humans is similar to that in monkeys, mosquitoes would not necessarily have to be house-frequenting species exposed to febrile cases in order to pick up the virus.

In an experiment lasting over a period of six months it was established that, in nature, yellow fever is not self-propagated among *Stegomyia* mosquitoes and that these insects can not maintain infective quantities of yellow fever virus among themselves without some suitable intermediate host. Previous investigators have shown that it is possible that the virus of yellow fever might be propagated among mosquitoes by contaminative means, either through dejecta or in coitus, but although conditions favorable to such transmission were provided in the above-mentioned experiment, it appeared that under natural conditions infective virus would not be maintained in sufficient quantity to render it a factor in transmission of the disease.

Another series of experiments indicated that *Stegomyia* mosquitoes acquire no immunity from the ingestion of immune blood and are unable to transfer passive immunity either by feeding or injection. Monkeys bitten by mosquitoes which had previously fed upon immune persons and those receiving subcutaneous injections of the macerated bodies of such insects,



Photograph Excised Here

Cages used for breeding and storing mosquitoes in the Foundation's yellow fever laboratory in Bahia, Brazil.



Photograph Excised Here

Fish tank at the central office of the yellow fever service, Pernambuco, Brazil, where larva-eating fish for stocking water containers are bred.

later succumbed to infectious virus. It appears that immune bodies in the blood ingested by mosquitoes are destroyed by digestion, since insects which had already digested one or more meals of immune blood became infective after feeding on an animal with yellow fever.

Extensive experiments showed that there is no decrease of the virus in mosquitoes in temperatures as low as 8 degrees Centigrade. On the other hand, there may be some decrease with prolonged exposure to high temperatures. However, the mosquitoes themselves are very susceptible to high temperatures and die before the destruction of the virus.

Preliminary experiments were undertaken in Bahia, Brazil, with the idea of eventually discovering a substance which would destroy mosquito larvae in certain out-of-door water containers and which would in time disappear from the water. The effects of approximately sixty substances were tested by placing larvae of *Aedes aegypti* in various concentrations of the test substances and observing the length of time required for death to ensue. While some of the substances employed were not of a type suitable for use in water containers, they were tested not only for their lethal powers but to secure information, from a comparison of their actions, as to the physiology or chemistry of the larvae

or of the mechanism or reaction responsible for the death of the insects.

The possibility of mechanical transmission of yellow fever virus on the bodies or mouth parts of insects which have had a partial meal on an infected animal, have been interrupted in their feeding, and have completed their meal on a non-immune animal was tested in a series of experiments in West Africa. Negative results were obtained in three experiments in which from thirty-nine to 100 mosquitoes were used. On the basis of these studies the conclusion was reached that the chances for aggravation of yellow fever epidemics by mechanical transfer of virus by insects feeding intermittently on infected and non-immune animals appear to be remote.

With the discovery of mosquito vectors of yellow fever other than *Aedes aegypti* it became of extreme importance to compile a list showing the geographical distribution of these species. The world-wide distribution of *Aedes aegypti* has been known for some time, but less is known about the recently convicted varieties. The disease at this time appears to be limited to certain countries in South America and along the West Coast of Africa, whereas the yellow fever vectors girdle the globe between the latitudes of 45 degrees north and 36 degrees south. Nevertheless, the fact that the disease is localized in a

relatively small area by no means mitigates the importance of preventing its spread to other countries where the potential vectors are common. Authorities on the subject have united in pointing out the significance of this menace to public health. A compilation of the recognized vectors, geographically arranged, has therefore been prepared by a member of the Foundation's staff in West Africa. This compilation embodies material recorded in the literature and in unpublished communications, and certain collections made by the writer in Nigeria.

Various other studies and experiments have dealt with the identification of blood meals in West African mosquitoes for the purpose of obtaining information concerning species feeding on human beings under natural conditions; with the environment, behavior, and classification of certain Brazilian mosquitoes; with *Aedes aegypti* larvae in Nigeria; and with Brazilian *Culicidae* as possible vectors of yellow fever virus.

Davis, N. C., and R. C. Shannon. Studies on Yellow Fever in South America. Attempts to Transmit the Virus with Certain Aedine and Sabethine Mosquitoes and with Triatomas (Hemiptera). *American Journal of Tropical Medicine*, 11: 21-29 (Jan.) 1931.

Philip, C. B. The Experimental Transmission of Yellow Fever by Mosquitoes. *Science*, 71: 614-615 (June 13) 1930.

Philip, C. B. Supplemental Note Regarding Mosquito Vectors of Experimental Yellow Fever. *Science*, 72: 578 (Dec. 5) 1930.

Philip, C. B. List of Mosquitoes Collected in Nigeria, West Africa, Incidental to Research on Yellow Fever. *Proceedings of the Entomological Society of Washington*, 33: 44-47 (Feb.) 1931.

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- Davis, N. C. The Transmission of Yellow Fever. On the Possibility of Immunity in Stegomyia Mosquitoes. *American Journal of Tropical Medicine*, 11: 31-42 (Jan.) 1931.
- Davis, N. C. Estudos sobre febre amarela. O efeito do calor e do frio sobre o desenvolvimento da infectividade nos *Aedes aegypti*. *Brasil-Médico*, 45: 77 (Jan. 24) 1931.
- Frobisher, Martin, Jr., and R. C. Shannon. The Effects of Certain Poisons upon Mosquito Larvae. *American Journal of Hygiene*, 13: 614-622 (March) 1931.
- Shannon, R. C., and Martin Frobisher, Jr. A Comparison of the Effect of Various Substances upon Larvae of *Aedes aegypti*. *American Journal of Hygiene*, Sept., 1931.
- Philip, C. B. Possibility of Mechanical Transmission by Insects in Experimental Yellow Fever. *Annals of Tropical Medicine and Parasitology*, 24: 493-501 (Dec. 18) 1930.
- Kumm, H. W. The Geographical Distribution of the Yellow Fever Vectors—A Compilation of Material Recorded in the Literature, Unpublished Communications, and Certain Collections Made by the Writer in Nigeria, West Africa. Monograph of the *American Journal of Hygiene*. No. 12. In press.
- Davis, G. E., and C. B. Philip. The Identification of the Blood Meal in West African Mosquitoes by Means of the Precipitin Test. A Preliminary Report. *American Journal of Hygiene*, 14: 130-141 (July) 1931.
- Shannon, R. C. The Environment and Behavior of Some Brazilian Mosquitoes. *Proceedings of the Entomological Society of Washington* 33: 1-27 (Jan.) 1931.
- Kumm, H. W. Studies on *Aedes* Larvae in Southwestern Nigeria and in the Vicinity of Kano. *Bulletin of Entomological Research*, 22: 65-74 (March) 1931.
- Shannon, R. C. On the Classification of Brazilian Culicidae with Special Reference to Those Capable of Harboring the Yellow Fever Virus. *Proceedings of the Entomological Society of Washington*, 33: 125-164 (June) 1931.

Further Laboratory Research

Much field and laboratory research remains to be done. Some method by which men can be protected against yellow fever would be extremely valuable. The work on vaccines attenuated by chemicals has not yet reached a

stage giving promise of dependable results, but studies are in progress. Experiments were made with chloroform emulsions prepared from the liver of animals that had yellow fever; but it was found that the vaccine thus produced was not a complete protection for animals.

The serum of human beings who have recovered from yellow fever and that of artificially immunized animals exhibit protective properties. It is possible to prevent the death of inoculated monkeys by the injection of such serum, if the serum is given before the virus or at the same time. Unfortunately serum is not effective after symptoms have set in.

It has been discovered that in monkeys passive immunity to yellow fever is longer if the serum comes from an homologous species. By analogy it might be concluded that such immunity in human beings will be longer if the serum is obtained from a human being. There is difficulty about determining the amount of convalescent serum which should be considered effective in preventing infection in man, and undoubtedly the prophylactic injections which have been given have been too small or too infrequent.

Yellow fever antibodies are produced in animals during the early course of the disease. If monkeys die before the seventh day following

the introduction of the virus they do not have time to produce antibodies. If they live until the seventh day or longer their serum shows very effective protective qualities. The virus has high resistance to putrefaction or the action of bacteria invading the body after death.

Studies on the filtrability of the yellow fever virus indicate that the virus dies out rapidly when suspended in certain saline solutions but that when normal rhesus serum is added to the solution, the deleterious effect is very much reduced. There is no evidence to indicate that virus in the blood differs from that in mosquitoes. As soon as the virus is inactivated it undergoes chemical or physical changes which interfere with its adsorption by filters. In artificial culture media the virus survived for at least twelve days but no visible growth was present and no reproduction of the virus was demonstrated.

Further detailed studies on the chemistry, metabolism, and pathology of yellow fever have been published.

Bauer, J. H. The Duration of Passive Immunity in Yellow Fever.

In press.

Davis, N. C. Uso experimental de uma vacina cloroformada contra a febre amarela. *Brasil-Medico*, 12: 268 (March 21) 1931.

Bauer, J. H. Some Characteristics of Yellow Fever Virus. *American Journal of Tropical Medicine*. In press.

Bauer, J. H., and A. F. Mahaffy. Studies on the Filtrability of Yellow Fever Virus. *American Journal of Hygiene*, 12: 175-195 (July) 1930.

Frobisher, Martin, Jr. Further Observations on the Filtrability of Yellow Fever Virus. *American Journal of Tropical Medicine*, 11: 127-137 (March) 1931.

- Lewis, P. A. The Survival of Yellow Fever Virus in Cultures. *Journal of Experimental Medicine*, 52: 113-119 (July 1) 1930.
- Wakeman, A. M., and C. A. Morrell. Chemistry and Metabolism in Experimental Yellow Fever in *Macacus rhesus* Monkeys. I. Concentration of Non-protein Nitrogenous Constituents in the Blood. *Archives of Internal Medicine*, 46: 290-305 (Aug.) 1930.
- Wakeman, A. M., and C. A. Morrell. Chemistry and Metabolism in Experimental Yellow Fever in *Macacus rhesus* Monkeys. II. Nitrogen Metabolism. *Archives of Internal Medicine*, 46: 382-401 (Sept.) 1930.
- Wakeman, A. M., and C. A. Morrell. Chemistry and Metabolism in Experimental Yellow Fever in *Macacus rhesus* Monkeys. III. Blood Sugar and Liver Glycogen. *Archives of Internal Medicine*, 47: 104-115 (Jan.) 1931.
- Klotz, O., and T. H. Belt. The Pathology of the Liver in Yellow Fever. *American Journal of Pathology*, 6: 663-687 (Nov.) 1930.
- Klotz, O., and T. H. Belt. The Pathology of the Spleen in Yellow Fever. *American Journal of Pathology*, 6: 655-662 (Nov.) 1930.
- Klotz, O., and T. H. Belt. Regeneration of Liver and Kidney Following Yellow Fever. *American Journal of Pathology*, 6: 689-697 (Nov.) 1930.

Safer and More Accurate Diagnosis

Inoculating monkeys with the blood serum of persons who are suspected of having had yellow fever and also with potent yellow fever virus, in the manner explained above, may obviously be considered a method of diagnosis. This method is known as the protection test. The use of mice instead of monkeys for this test is one step forward. It would be another step forward if no animals were needed at all and if by a comparatively simple reaction in a test tube the presence or absence of yellow fever could be accurately detected. Experiments of this nature dealing with the so-called complement fixation test have been conducted. More work will

be necessary before the results can be satisfactorily interpreted, but they appear to be specific. The use of the icterus index and also the brom-sulphalein test as related to diagnosis has been discussed in a publication.

In the history of yellow fever diagnosis there has been much confusion with other diseases closely resembling yellow fever but not identical with it. The definite segregation of infectious jaundice as a disease somewhat like yellow fever but caused by an organism known as *Leptospira icterohaemorrhagiae* was discussed in last year's report. Since that time there has been published an account of another obscure epidemic disease provisionally designated as Kukuruku disease, which might be confused with yellow fever. This disease occurs in West Africa among natives and takes its name from the Kukuruku division of Benin Province, Nigeria.

An important development of the year was the invention of an instrument known as the "viscerotome" by which a section of the liver can be obtained easily from the cadaver of a person suspected of having died of yellow fever. In any campaign against yellow fever the confirmation of diagnosis by autopsy is of paramount importance. Microscopic examination of the liver is usually sufficient to establish a definite positive or negative diagnosis. But yellow fever often

occurs in out of the way districts where there may be a relative lack of physicians and where autopsies are therefore impossible. With the viscerotome a layman can obtain liver sections through an operation which is hardly more than a simple puncture and which does not constitute an autopsy. Moreover, there is no danger to the operator. He need not touch anything except the instrument, and all possibility of contamination with infectious material is therefore precluded. The use of the viscerotome is not intended to take the place of complete autopsies by physicians, but merely to facilitate diagnosis in suspected areas where medical attention is not available.

- Frobisher, Martin, Jr. Results of Complement Fixation Tests with Yellow Fever Antigens. *Journal of Preventive Medicine*, 5: 65-78 (Jan.) 1931.
- Frobisher, Martin, Jr. Antigens and Methods for Performing the Complement Fixation Test for Yellow Fever. *American Journal of Hygiene*, 13: 585-613 (March) 1931.
- Frobisher, Martin, Jr. An Improved Antigen for the Complement Fixation Test in Yellow Fever. *American Journal of Hygiene*, 14: 147-148 (July) 1931.
- Beeuwkes, Henry, A. M. Walcott, and H. W. Kumm. An Obscure Epidemic Disease Associated with Jaundice, Observed in Nigeria, West Africa. *Transactions of the Royal Society of Tropical Medicine and Hygiene*, 24: 429-451 (Jan.) 1931.
- Hudson, N. P. Histopathology of an Epidemic Disease Associated with Jaundice, Occurring in Nigeria, West Africa. *Transactions of the Royal Society of Tropical Medicine and Hygiene*, 24: 453-460 (Jan.) 1931.
- Kumm, H. W. A Discussion of the Recent Literature on Infectious Epidemic Diseases Associated with Jaundice. *Transactions of the Royal Society of Tropical Medicine and Hygiene*, 24: 421-428 (Jan.) 1931.

Kerr, J. A. The Use of Icterus Index and Bromsulphalein Test in Experimental Yellow Fever. *American Journal of Tropical Medicine*, 11: 139-143 (March) 1931.

Accidental Laboratory Infections

The danger of exposure to infective mosquitoes in the laboratory or in the field has long been recognized. But the greater peril from the blood and tissue of experimental animals has only recently been fully appreciated. Even extreme precautions have failed to terminate the long series of accidental infections in the laboratories. Among the workers engaged in laboratory research in yellow fever, at least thirty-two have contracted yellow fever and there have been six fatalities.

In most cases the infection was attributed to working with infectious monkey blood or tissue, but in two instances the exposure was to yellow fever in mice and in two others to the bites of infected mosquitoes. The recent illnesses have, on the whole, been less severe than the early ones. Why so many persons have been infected in the absence of unusual exposure through a recognized wound or a laboratory accident has been something of a mystery. In most of the laboratories rubber gloves have been worn in all manipulations of infected material. The extreme infectiousness of blood drawn early in the disease is indicated by the fact that yellow fever virus in monkey

blood can infect healthy monkeys through the unbroken skin.

The enormous extent to which yellow fever virus can be diluted and still produce fatal infection in monkeys has been confirmed. A former study showed that a very minute quantity, one millionth (0.000001) cc. was enough to cause infection. More recently it has been found that amounts between one ten-millionth (0.0000001) and one billionth (0.000000001) cc. have frequently proved fatal. The amount of infectious blood, commonly used in the protection tests described above (0.1 cc.), represents approximately one million lethal doses of the virus.

The fatalities from yellow fever among the Rockefeller Foundation staff thus far include Howard B. Cross (1921), Adrian Stokes (1927), Hideyo Noguchi (1928), Paul A. Lewis (1929), and Theodore B. Hayne (1930).

Berry, G. P., and S. F. Kitchen. A Study of Six Laboratory Infections with Yellow Fever. In press.

Lewis, P. A. The Survival of Yellow Fever Virus in Cultures. *Journal of Experimental Medicine*, 52: 113-119 (July 1) 1930.

Beeuwkes, H., J. H. Bauer, and A. F. Mahaffy. Yellow Fever Endemicity in West Africa, with Special Reference to Protection Tests. *American Journal of Tropical Medicine*, 10: 305-333 (Sept.) 1930.

Other Specific Diseases

Malaria Research

Since the malarialogist deals regularly with the malaria parasite in the mosquito as well as with

malarial infection in man, both entomological and medical training are necessary to his success.

As an aid to the classification of the malaria-carrying mosquito of Porto Rico, a study was made of the characteristics of the three species found in the island, and a tabulation was prepared which makes possible the easy differentiation of the species both in larval and adult form. A similar service was rendered for the Republic of Panama, and the data essential to the sanitarian were made available in a government publication.

A number of other articles published during the year facilitate the task of classifying malaria mosquitoes. One of these deals with anopheline and other mosquitoes of Bahia, Brazil; another with a new species of *Culicidae* from Nigeria; and another with the African malaria vector, *Anopheles gambia*, which was found breeding in the city of Natal, Rio Grande do Norte, Brazil. Further studies on the bionomics of North American *Anopheles* were published, and a report was made on an anopheline survey in the state of Mississippi.

Attempt was made to clear up confusion with regard to the terminology of mosquitoes of the Philippine Islands, with a view to preparing a standard classification of these mosquitoes. In the Peruvian Andes a study was made of

Anopheles pseudopunctipennis, suspected of being a malaria carrier there as elsewhere. It is the only mosquito appearing in abundance in that region. Surveys in certain parts of Brazil resulted in additional evidence incriminating *Anopheles darlingi* as a transmitter of malaria. This mosquito was first differentiated in 1926. A method was elaborated for identifying various species of the *Nyssorhynchus* group by certain structural differences observable in the freshly killed mosquito in the natural state. The aim was to provide a classification of *Anopheles* based on easily discernible anatomical characteristics.

- Wells, C. W. The Identification of the Anopheline Mosquitoes of Porto Rico. *American Journal of Tropical Medicine*, 10: 243-248 (July) 1930.
- Schapiro, Louis. Modo de identificar los mosquitos anopheles de Panamá. National Department of Hygiene and Public Health, Republic of Panama, Publication No. 8, 1930.
- Boyd, M. F. Studies on the Bionomics of North American Anophelines. VI. Some Observations on Imagines. *American Journal of Hygiene*, 12: 449-466 (Sept.) 1930.
- Perez, Manuel. An Anopheline Survey of the State of Mississippi. *American Journal of Hygiene*, 11: 696-710 (May) 1930.
- Baisas, F. E. The Barbirostris-Hyrcanus Group of the Philippine *Anopheles*. *Philippine Journal of Science*, 44: 425-448 (April) 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., and N. C. Davis. Observations on the *Anophelini* (*Culicidae*) of Bahia, Brazil. *Annals of the Entomological Society of America*, 23: 467-492 (Sept.) 1930.
- Shannon, R. C. *Anopheles gambiae* in Brazil. In press.
- Davis, N. C. A Note on the Malaria-Carrying *Anopheles* in Belém, Pará and in Natal, Rio Grande do Norte, Brazil. *Rivista di Malariologia*, 10: 43-51 (Jan.-Feb.) 1931.
- Hill, R. B. Classification of Certain *Anopheles* of the *Nyssorhynchus* Group by Immediate Examination of the Male Genitalia. *American Journal of Hygiene*, 11: 711-713 (May) 1930.

Shannon, R. C. Observations on *Anopheles pseudopunctipennis* in Peru. *American Journal of Hygiene*, 12: 442-448 (Sept.) 1930.

Davis, N. C., and H. W. Kumm. Further Incrimination of *Anopheles darlingi* Root, as a Transmitter of Malaria. In press.

Certain improvements in the laboratory technique employed in dealing with mosquitoes were reported during the year. These include the use of dental instruments for mosquito dissection, a rapid method of staining, the cage rearing of *Anopheles*, and the method of raising several generations in captivity. Further articles discuss a method for feeding blood meals to mosquitoes, the dissection of over a thousand anophelines in Jamaica to find out how many had malaria sporozoites in their salivary glands, and the dissection of *Anopheles maculipennis* in Italy for the detection of flagellates in the intestinal tube.

Russell, P. F. Dental Instruments for Mosquito Dissection. In press.

Neri, Francesco. La Colorazione Rapida dei Parassiti della Malaria col Liquido di Giemsa. *Rivista di Malariologia*, 9: 150-153 (March-April) 1930.

Boyd, M. F. The Cage Rearing of *Anopheles quadrimaculatus*. *American Journal of Tropical Medicine*, 10: 165-175 (May) 1930.

Russell P. F. A Method for Feeding Blood Meals to Mosquitoes, Male and Female; Preliminary Note. In press.

Carley, Paul S. Results of Dissection of 1,017 Wild-Caught Anophelines in Jamaica. *American Journal of Tropical Medicine*, 11: 293-296 (July) 1931.

Missiroli, A. Ricerche sui flagellati che si riscontrano nell' *Anopheles maculipennis*. *Rivista di Malariologia*, 9: 111-119 (March-April) 1930.

Studies were made of avian malaria for the purpose of determining the mechanism of immunity in birds and the efficacy of certain quinine substitutes in bird infections. Special

attention was paid to synthetic quinine as a prophylactic. A study of canaries failed to elicit any evidence that *Anopheles* mosquitoes feed on these birds. This question is of importance because anopheline infections obtained from birds in this manner might vitiate the natural infection index of these mosquitoes.

- Cannon, P. R., and W. H. Taliaferro. Acquired Immunity in Avian Malaria. III. Cellular Reactions in Infection and Superinfection. *Journal of Preventive Medicine*, 5: 37-64 (Jan.) 1931.
- Manwell, R. D. Further Studies on the Effect of Quinine and Plasmochin on the Avian Malarias. *American Journal of Tropical Medicine*, 10: 379-405 (Nov.) 1930.
- Russell, P. F. Plasmochin Simplex: A Prophylactic Drug in Avian Malaria. Preliminary Report. *American Journal of Tropical Medicine*, 11: 279-284 (July) 1931.
- Russell, P. F. *Anopheles* Mosquitoes and Avian Malaria. *American Journal of Tropical Medicine*, 11: 145-146 (March) 1931.

The problem of malaria in the Southern United States was studied with special reference to public health personnel requirements. A malaria study, involving spleen, adult mosquito, and larva surveys, was made in the Philippine Islands in an area near Manila Bay. Further investigation of the problem of the natural disappearance of malaria in certain regions of Europe again called attention to the theory that the mosquito which is responsible for the transmission of the disease gradually learns to prefer certain domestic animals to human beings, that is, the particular species in question develops a zoophylic strain. This continues until a point

is reached where man is bitten so infrequently as to render the transmission of malaria almost impossible.

Several accounts of the highly successful anti-malaria work in Italy were published. Certain specific factors in the campaign were stressed, such as the concrete channels in the flat bottoms of drainage canals, the use of small fish and of certain chemicals, especially Paris green, in larva control, and the screening of houses. The last-mentioned measure is a feature of all housing plans in connection with the extensive reclamation projects now under way in Italy. In discussing the historical aspect of malaria, the danger of infection even for people who live under good economic conditions was pointed out.

The relation of mosquito breeding to the culture of certain plants is a subject of perennial interest. In fact, malaria is almost everywhere intertwined closely with agriculture. A study was made of rice cultivation in Tucumán, Argentina. It was recommended that special measures be taken against mosquito foci found in or near rice fields. Results were correlated with similar studies in Bulgaria, where intermittent irrigation, aimed both at furthering rice cultivation and preventing mosquito development, was given a trial. In Porto Rico the relation of malaria to the cultivation of sugar-cane

was investigated. In this island sugar-cane is the principal crop in certain malarious regions, and the methods of its cultivation influence the breeding of mosquitoes. It is believed that with proper drainage mosquito breeding can be brought under control in the island. The subject of the supposed antagonism between alfalfa and malaria was discussed in an article in which it was pointed out that whenever a decline of malaria has coincided with the planting of alfalfa this decline has in all probability been due directly to the drainage measures undertaken to obtain optimum conditions for the cultivation of this plant.

- Earle, W. C. Malaria in Porto Rico in its Relation to the Cultivation of Sugar Cane. *Southern Medical Journal*, 23: 449-453 (May) 1930.
- Earle, W. C. Malaria in Porto Rico. *American Journal of Tropical Medicine*, 10: 207-230 (May) 1930.
- Ferrell, J. A. Challenge of Malaria in the South. *American Journal of Public Health and The Nation's Health*, 21: 355-377 (April) 1931.
- Holt, R. L., and P. F. Russell. Spleen Survey of the Eastern Shore of Bataan Province, Luzon. *Philippine Journal of Science*, 45: 211-218 (June) 1931.
- Hackett, L. W., and A. Missiroli. The Natural Disappearance of Malaria in Certain Regions of Europe. *American Journal of Hygiene*, 13: 57-78 (Jan.) 1931.
- Hackett, L. W. Recent Developments in the Control of Malaria in Italy. *Southern Medical Journal*, 24: 426-430 (May) 1931.
- Missiroli, A. Le grandi bonifiche nei riguardi della biologia e dell'igiene. Comunicazione al Congresso Internazionale di Malariologia di Algeri, Maggio 21-23, 1930.
- Missiroli, A. La Casa Rurale nei Riguardi Igienici e Sociali. Scuola Superiore di Malariologia, 1930, VIII.
- Mazza, Salvador, and E. R. Rickard. Relación del cultivo de arroz con la difusión del paludismo en la provincia de Tucumán. Quinta reunión de la Sociedad Argentina de Patología Regional del Norte Jujuy, 7 a 10 de octubre de 1929.
- Stratman-Thomas, W. K. On the Supposed Antagonism between Alfalfa and Malaria. In press.



Photograph Excised Here

Catching anopheline mosquitoes at Valchetta, Italy, for studies in connection with the antimalaria program.



Photograph Excised Here

Seeking out anopheline breeding places in Southern Yugoslavia, where the Foundation is assisting the health authorities in a study of rural malaria.

Malaria Control

How closely research and control work are bound up together is apparent from the last few paragraphs. Malaria has rightly been called a "Protean" disease. Investigators undertaking to combat the malaria menace must always be ready to meet its multivaried approaches with infinite resourcefulness and an open mind. During 1930 the Rockefeller Foundation, in furthering antimalaria activities, supplied funds and the services of field representatives to assist four states in the United States and the governments of twenty foreign countries in conducting field demonstrations, field studies, and centers for the training of personnel, and in supervising malaria control programs.

In the United States assistance was given to the state health departments of Georgia, Louisiana, Mississippi, and Virginia. Experiments are being conducted to determine the extent to which available knowledge regarding malaria can be applied through existing public health organizations. Minor drainage and screening of homes are the principal measures employed to control the disease. Epidemiological field studies are stressed.

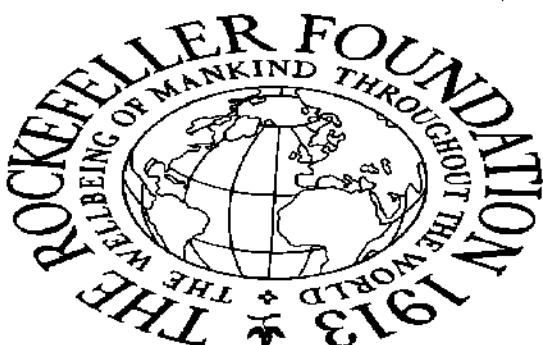
Foundation assistance to antimalaria operations in Central America comprised a small grant toward some experimental field work in Costa

Laying the main irrigation conduit at the War Veterans' Association settlement, Isola Sacra, Italy, where an anti-malaria drainage program is being carried out.



Photograph

Rubble and turfed drains of this type are a feature of the antimalaria work which the government of Ceylon is conducting at Trincomalee.



Photograph Excised Here

Concrete sections for the irrigation channels at Isola Sacra, and the wooden forms used in making them.



Excised Here

Laying a tile drain in Costa Rica. Small stones are placed around and on top of the drain, and rock filling to the depth of at least a foot is placed over this.

Rica and advisory services to the various governments by Foundation field representatives. The distribution of Paris green by airplane at Managua, Nicaragua, has been highly successful.

In Porto Rico, between 1924 and 1930, the insular government spent over a quarter of a million dollars in malaria control measures, based upon the results of various surveys and studies. These measures, administered through the Bureau of Malaria Control, are now being applied successfully at five points along the coast where malaria is most prevalent. Other strategic points are to be covered as government funds become available. Experiments in tile drainage are being continued with an increasing proof of its value both agriculturally and as means of mosquito control. In general, antilarval methods have been employed almost exclusively.

The story of malaria in Italy is well known. The fifth year of cooperative work has seen the realization of many of the objectives in mind when a central malaria experiment station was established. Diminution of malaria in various experimental areas was proved to be due to the measures employed rather than to the natural decrease of endemic malaria. In Porto Torres, where the work has been longest under way, the incidence of acute malaria has been reduced 90

per cent. The Italian Government has now introduced larval control as an obligatory measure in malarious regions. An important aspect of the work in the experimental areas has been the training afforded to fellows of the Rockefeller Foundation and of the League of Nations, to health officers of the city of Rome, and to students from the Superior School of Malariology at Rome. Visitors from other countries are frequent. The Malaria Experiment Station is intended to be a permanent division of the Institute of Hygiene and Public Health now definitely projected. With it will be incorporated the Superior School of Malariology. The results of antimalaria studies in Corsica have been so successful that the National Government will continue the control measures developed with Foundation aid during the past six years, and will apply them generally throughout the island by means of four malaria field stations.

In Albania three malaria field stations have been established. The problem here centers around surface water distribution and involves drainage, irrigation measures, and the use of Paris green. An antimalaria bureau has been created in the Department of Public Health. To the support of this the government, the individual towns, and the Foundation contribute.

Field studies in Bulgaria involve both epidem-

iology and a close evaluation of antimalaria operations. Investigations have been in progress at Petritch since 1928. Much good work has been done in drainage at very little cost. In the Netherlands, where a highly specialized field study is going forward at Medemblik, efforts have been made to determine in how large a surrounding zone antimalaria measures must be conducted in order to protect a given area. Recently experiments have been undertaken to determine the larvicidal efficiency of a cheap and odorless oil. In Greece the Foundation is assisting the government in the development of a division of malariology in the Ministry of Health. Preliminary field studies were carried out in order to determine the best plan for the control of malaria in the country. A general knowledge of malaria conditions was obtained, and specific information upon anopheline density and malaria incidence was secured in certain areas selected for special study.

In malaria field studies in the Philippine Islands especial attention is being given to keeping down the cost of control work so that it will fit in with the general health program locally supported. In the State of Mysore, India, three malaria stations have been established. Careful malaria and mosquito surveys are made, and mosquito breeding is controlled by means of

Paris green. Special studies have been made at Bangalore City.

The foregoing account does not mention in detail all the countries with which the Rockefeller Foundation is cooperating in malaria studies and demonstrations, nor does it give a complete picture of the great amount of careful detail work government officials are doing today in connection with the malaria problem. In general the trend of control work is toward greater emphasis on antilarval or antimosquito measures. The aim is to do away with malaria by controlling the breeding of anopheline mosquitoes and thus banishing the transmitter of the disease. Different measures, such as large drainage projects, small drainage operations, the use of a film of oil on stagnant water and of larva-eating fish in other kinds of water, the spraying of minute quantities of Paris green mixed with road dust or similar diluent, and screening to keep out the adult mosquitoes, are employed in accordance with the nature of the terrain and the living conditions of the population in the region under consideration. In each case the economic factor is given careful study so that no work will be projected on the basis of greater expenditure than the people themselves can afford. In every case, too, the closest attention is paid to a study of the habits of the particular anopheline

mosquito responsible for transmission. Malaria control therefore represents an activity involving a multitude of variable factors of a geographical, biological, medical, and economic nature.

Hookworm Disease

Studies directed toward the discovery of an efficient and harmless vermifuge have been conducted for a number of years under the direction of Professor P. D. Lamson of Vanderbilt University. These were continued during 1930, and articles were published showing that hexylresorcinol, a white, waxy, crystalline substance, has an extraordinarily high bactericidal action, and sufficient effect as a vermifuge to remove, in a single administration, 90 per cent of the hookworms harbored by an individual. The drug has local irritant properties but no toxic effects. Details as to dosage and method of administration are given. The drug also has great value as an ascaricide, especially in canine ascariasis. Results with dogs are even more striking than with human beings.

- Lamson, P. D., C. B. Ward, and H. W. Brown. An Effective Ascaricide — Hexylresorcinol. *Proceedings of the Society of Experimental Biology and Medicine*, 27: 1017-1020, 1930.
- Lamson, P. D., E. L. Caldwell, H. W. Brown, and C. B. Ward. Hexylresorcinol in the Treatment of Human Ascariasis. *American Journal of Hygiene*, 13: 568-575 (March) 1931.
- Lamson, P. D., H. W. Brown, C. B. Ward, and B. H. Robbins. Hexylresorcinol in the Treatment of Hookworm Disease. *Proceedings of the Society of Experimental Biology and Medicine*, 28: 191-193 (Nov.) 1930.

Lamson, P. D., H. W. Brown, and C. B. Ward. Hexylresorcinol in Canine Ascariasis. In press.

Further studies were made on the egg production of the dog hookworm, on the effects of diet on hookworm infestation in dogs, and on the immunity reactions of the dog against hookworm when repeated doses of larvae are given over a long period of time. Precipitin and complement fixation tests on dog sera with antigen from the dog hookworm were reported upon.

The origin of hookworm anemia was investigated, using as a basis findings in 400 postmortem examinations. In 24 of these cases hookworm disease had been given as the cause of death. Worms found at autopsy contained little or no blood in their intestinal tracts. It was concluded that the question of the origin of hookworm anemia cannot be settled on the basis of pathological and anatomical findings alone.

The rate of loss of hookworms after these have found their way to the human intestine was investigated. Evidence was presented to show that the American hookworm, *Necator americanus*, is ordinarily slowly acquired and slowly lost. It was found that in the absence of reinfection hookworms acquired by human beings may have a definite life span, in the intestine, of four years or longer.

An interesting new method of examining urine

for helminth eggs was reported upon. This was developed in Egypt where it was found to be of considerable use, as it enabled slides to be shipped to a central laboratory from field units at a minimum expense. After the slides are examined they may be filed for reexamination. The eggs resume their normal contour as often as they are remoistened.

- McCoy, O. R. The Egg Production of Two Physiological Strains of the Dog Hookworm, *Ancylostoma caninum*. *American Journal of Hygiene*, 14: 194-202 (July) 1931.
- Foster, A. O., and W. W. Cort. The Effect of Diet on Hookworm Infestation in Dogs. *Science*, 73: 681-683 (June 19) 1931.
- McCoy, O. R. Immunity Reactions of the Dog against Hookworm (*Ancylostoma caninum*) under Conditions of Repeated Infection. In press.
- Stemberg, J. E. Precipitin and Complement Fixation Tests on Dog Sera with Antigen from the Dog Hookworm, *Ancylostoma caninum*. *American Journal of Hygiene*, 12: 657-668 (Nov.) 1930.
- Schapiro, L., and E. G. Nauck. Observations on Hookworm Disease in Costa Rica Based on Postmortem Findings. In press.
- Payne, G. C., and F. K. Payne. Observation on Rate of Loss of *Necator americanus*. *American Journal of Hygiene*, 14: 149-155 (July) 1931.
- Caldwell, F. C., and E. L. Caldwell. The Rate of Loss of Hookworms in the Absence of Reinfestation. *Journal of Parasitology*, 17: 209-222 (June) 1931.
- Barlow, C. H. A New Method of Examining Urine for Helminth Eggs. *American Journal of Hygiene*, 14: 212-217 (July) 1931.

Studies of the bored-hole latrine were made at a field station in Andalusia, Alabama. In a number of places throughout the world, notably the Philippine Islands, the Netherlands East Indies, the province of Burma and the State of Mysore in India, and the island of Ceylon, experiments and investigations were carried out to determine the type of sanitary latrine best



Photograph Excised Here

Substantial latrines of this type are being erected in rural areas of Colombia where hookworm campaigns are in progress.

This type of latrine is being widely installed in Java as a result of the rural sanitary campaign which is being conducted.



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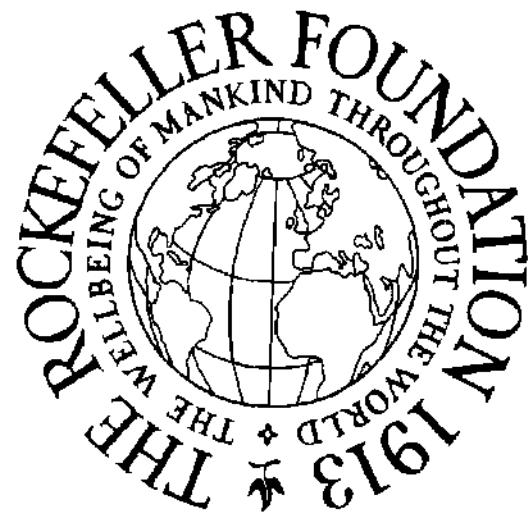
A lecture on hookworm disease in a Mexican school.

adapted to the localities under consideration.

In the South Seas, a hookworm survey was attempted in Rennell Island, an isolated islet with a population of from 1,200 to 1,500. Most of the data gathered were of anthropological rather than public health interest. However, after considerable difficulties, sixteen stool specimens were obtained for examination for hookworm, and the total infestation was found to be 56.3 per cent. Hookworm disease is, therefore, one of the elements entering into the health picture of the very primitive people of this island.

A comparison of the hookworm infestations of Indians and non-Indians in a section of Panama showed a striking difference in worm burdens, corresponding with the difference in defecation habits of the two groups and the extent of contact with infested soil. It was also shown that severe infestation may exist without significant anemia until the undetermined anemia-producing factors come into play, when typical hookworm emaciation sets in. In a further investigation in a Panama village, it was found that there is no reduction in the level of infestation with hookworm, ascaris, and trichuris over the four months of the dry season.

Interesting data were obtained regarding the epidemiology of infestation with trichuris and ascaris by a study of inmates of insane asylums



Photograph Excised Here

Hookworm patients taking treatment and viewing a microscopical demonstration at an office of the Rural Sanitation Service in Java.



Photograph Excised Here

Patients assembled for treatment at the office of the Hookworm Service in a rural area of Mexico.

and homes for mentally defective children in the state of Alabama.

The Foundation continued during 1930 to contribute funds toward the hookworm budgets of a limited number of foreign countries. It also provided the services of field representatives who assisted health administrations throughout the world in conducting antihookworm activities which comprised control operations, field studies, and research. The countries cooperated with were: Mexico, Jamaica, Porto Rico, Costa Rica, Guatemala, Honduras, Nicaragua, Panama, Salvador, Colombia, Venezuela, Spain, Ceylon, Egypt, India, the Netherlands East Indies, the Philippines, and certain island groups in the South Pacific.

In many countries the campaign against hookworm disease has been merged with the general activities of the public health service so that hookworm disease is now treated as only one factor in a number of conditions that affect public health.

Schapiro, Louis. Hookworm Infestation in an Indian (Guaimi) and Non-Indian Population of Panama. *American Journal of Tropical Medicine*, 10: 365-373 (Sept.) 1930.

Schapiro, Louis, and W. W. Cort. A Study of the Relation of the Dry Season to the Level of Helminth Infestation in a Panama Village. *American Journal of Hygiene*, 12: 699-708 (Nov.) 1930.

Caldwell, F. C., E. L. Caldwell, and G. E. Davis. Some Aspects of the Epidemiology of Infestation with *Trichuris* and *Ascaris* as Revealed in a Study at the Hospitals for the Insane and the Home for Mentally Defective Children in the State of Alabama. *American Journal of Hygiene*, 11: 619-651 (May) 1930.

Respiratory Diseases

Up to June 30, 1930, the Rockefeller Foundation continued to collaborate with the Rockefeller Institute for Medical Research in a program of field research in acute respiratory diseases. From July 1 the program was continued by the Foundation under the direction of Dr. W. G. Smillie of the Harvard School of Public Health. A field study of acute respiratory diseases in the tropics, carried out on the island of St. John, one of the Virgin Islands, was completed in April, 1930. This represents the third field study of acute respiratory diseases that has been made, previous investigations having been conducted in Alabama and Labrador. In the fall of 1930 an investigation was begun at Spitsbergen, Norway, dealing with the epidemiological aspects of these diseases.

The studies indicate that colds are incited by some specific agent with which we are not yet familiar. This agent is infectious in nature and is spread by direct contact, with an incubation period of from one day to three days. There is strong evidence that environmental factors, particularly reduction in atmospheric temperature, have some influence upon the incidence of colds. Colds are less common and less severe in the tropics than in the temperate zones. No change occurred in the nasopharyngeal flora in a group

of persons who developed colds. A considerable amount of detailed and carefully collated information on nasopharyngeal flora was obtained.

Milam, D. F., and W. G. Smillie. A Bacteriological Study of "Colds" on an Isolated Tropical Island (St. John, United States Virgin Islands, West Indies). *Journal of Experimental Medicine*, 53: 733-752 (May) 1931.

Burky, E. L., and H. L. Freese. Filter-Passing Anaerobic Bacteria of the Upper Respiratory Tract in Health and During Acute Respiratory Disease. In press.

The Foundation aided tuberculosis work in the United States during 1930 by contributing funds toward a statistical analysis of tuberculosis data by the Department of Health of Massachusetts, toward the reorganization of the tuberculosis program of the New York City Department of Health, and toward a program of studies to be conducted by the Henry Phipps Institute for the Study, Treatment, and Prevention of Tuberculosis, Philadelphia, over the two-year period, July 1, 1930, to June 30, 1932, under the direction of Dr. E. L. Opie. The Henry Phipps Institute provides training in tuberculosis work for Foundation staff members and others, as well as facilities for carrying to completion tuberculosis studies begun in the field.

Epidemiological work in tuberculosis was carried on in Jamaica, where Dr. Opie made preliminary studies in February and March, 1928, and where, in that same year, a tuberculosis clinic was established in Kingston. Later,

additional clinics were opened at Half-Way Tree in St. Andrew parish and at Spanish Town in St. Mary parish. The scope of the work is being widened. New activities include a case-finding survey, the provision of a consulting diagnostic service and an x-ray laboratory, educational work, and special field studies. During the year an article was published on the anatomical characteristics of tuberculosis in Jamaica.

In August, 1930, a Foundation representative attended the Eighth Conference of the International Union against Tuberculosis, held at Oslo, Norway.

Other Investigations

Funds were provided for an epidemiological investigation of undulant fever to be conducted under the direction of Professor M. Lisbonne, head of the Bouisson-Bertrand Institute at the University of Montpellier, France. It is proposed to make a thorough study of this disease in France. The extensive cooperation of a number of French medical men and veterinary surgeons, as well as several public health laboratories, has been secured.

A study was made of the prevalence of syphilis in apparently healthy negroes in Mississippi. In an examination of 7,228 blood specimens, positive reactions were obtained in almost 20

per cent. These data suggest that this disease is an important public health problem among the rural negro population of Mississippi.

Problems connected with nutrition entered into a study, published during 1930, on the heights and weights of children in three communities of Porto Rico. It was suggested that such defects of nutrition as existed were due not to lack of a sufficient quantity of food but rather to deficient amounts of specific elements. The deficiencies are qualitative rather than quantitative.

In the cotton section of the Southern United States some concern has been caused by the presence of pellagra, and the public health authorities have endeavored to correct the conditions which lead to this disease. The studies of Goldberger and his associates have shown that the deficiency in the diet to which the disease is due can be supplied by administering an ounce of dried brewer's yeast daily. Results of a study of 176 pellagra patients who had received brewer's yeast were reported during the year. All but one of the patients lived, and the treatment was apparently of great assistance in allaying all symptoms of the disease. At the present time the populations of certain regions subsist largely on three foods: salt pork, corn meal, and molasses. The palliative character of the treatment outlined above and the need for



Photograph Excised Here

Cruz Bay, St. John, United States Virgin Islands, where a study of respiratory diseases was completed in 1930. The field laboratory is seen in the right background.



Photograph Excised Here

Tuberculosis dispensary at Kingston, Jamaica.

education of the public in the direction of an improved and more varied diet were clearly shown.

- Opie, E. L. Anatomical Characteristics of Tuberculosis in Jamaica. *American Review of Tuberculosis*, 22: 613-625 (Dec.) 1930.
- Carley, P. S., and O. C. Wenger. The Prevalence of Syphilis in Apparently Healthy Negroes in Mississippi. *Journal of the American Medical Association*, 94: 1826-1829 (June 7) 1930.
- Payne, G. C., M. B. Berrios, and E. M. Rivera. Heights and Weights of Children in Three Communities of Porto Rico. *Porto Rico Journal of Public Health and Tropical Medicine*, 5: 344-356 (March) 1930.
- Carley, P. S. The Use of Dried Brewer's Yeast in the Treatment and Prevention of Pellagra. *New Orleans Medical and Surgical Journal*, 82: 740-744 (May) 1930.

Aid to State and Local Health Administrations

Local Health Departments

The investigation and control of specific diseases outlined in the foregoing pages constitute one element in the larger health program of this modern age, in many aspects of which the Rockefeller Foundation is cooperating. The varied character of this program is well brought out by the map on page 88, which shows the health activities in European countries in which the Foundation is today participating. It will be seen that in addition to work in the specific diseases already mentioned, aid is given for fellowships, for the work of local health departments, statistical bureaus, and bureaus of epidemiology; for public health nursing, sanitary engineering, district health work, and general health surveys; to institutes and schools of



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Tuberculosis hut erected in the city of Henderson, Kentucky, by the Henderson County Health Department, with funds derived from the annual sale of tuberculosis stamps. This was used by a patient during 1930 with great benefit.



Photograph Excised Here

A tuberculosis hut of woven reeds, provided by the local health service of Mezokovesd district, county of Borsod, Hungary

hygiene; and toward the health work of the League of Nations.

This picture of cooperation in many activities promoting health holds true also for a large number of countries outside of Europe. Europe is taken as an illustration because it is a compact area easily representable on a map. Europe, too, is typical of the new world-wide interest in public health. The rise of public health in post-war Europe, especially in the Central and Balkan countries during the past decade, has been spectacular. Here, as elsewhere, the science of applied hygiene is pulsating with achievement. The experience in most of these countries indicates that the health movement is attributable to a number of factors, among which are, first of all, the broad vision of certain health leaders, next the increased social-mindedness of both urban and rural populations, and third the rapid development of a new and effective form of local health organization of which the county health unit in the United States may be considered a type.

The growth of county health organizations in the United States has been significant. The first full-time county health unit was established in 1911. Since then there have been many changes in the plan of conduct of county health programs, but eventually the trial and error

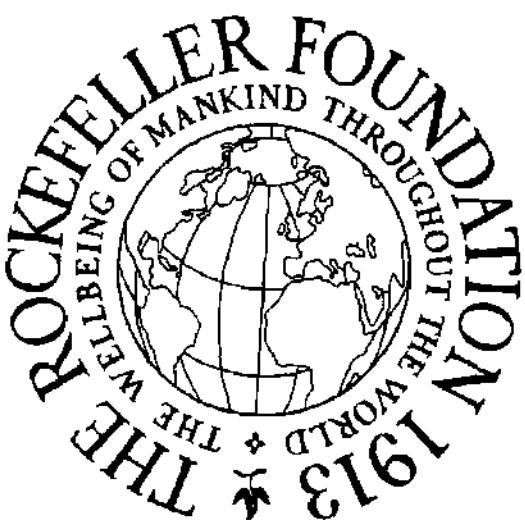
EUROPE



Various types of health work in which the Rockefeller Foundation is assisting in Europe.

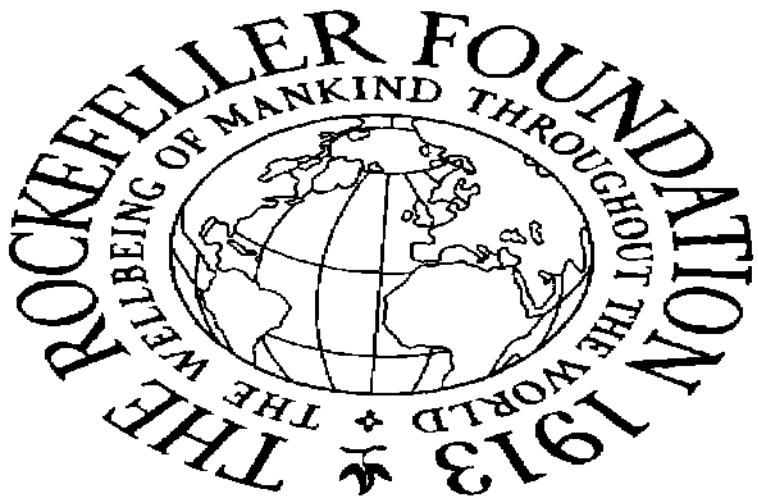
method has led to definite and clear-cut lines of procedure, all centering around the appointment of an efficient full-time health officer, assisted by a competent staff. On January 1, 1930, there were 534 full-time county organizations in operation. There are still about 2,000 counties in the United States without local health service, to which full-time county or district health organization is adapted. The work is being developed as fast as trained personnel is available to take charge of the individual units. This type of local health service is by no means adapted only to the political division known as the county. It has been instituted in China and France, and it has been enthusiastically taken up in Central Europe, where the new governments have been making a determined effort to put their health work on a modern basis.

During 1930 the Rockefeller Foundation assisted twenty-four states in the United States and the governments of seventeen foreign countries to develop modern local health organizations, by providing funds, the supervisory or consultant service of field representatives, and facilities for practical field training of personnel. The local health units aided include three in British Columbia, one in Manitoba, thirteen in Quebec, and one in Saskatchewan, making a total of eighteen in Canada; two in Mexico,



Photograph Excised Here

One of the new hand cars used by the educational division of the Public Health Service of the Netherlands East Indies for transporting motion picture equipment. The cost of having this car taken from place to place by coolies is small.



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The Child Health Institute was established in May, 1929, by the Department of Public Safety of Peiping, China, to combat the high mortality among children. A feature of the Institute is the mothercraft course designed to instruct mothers in child care and home economics and hygiene. The members of the first class which completed the course in July, 1930, are shown above.

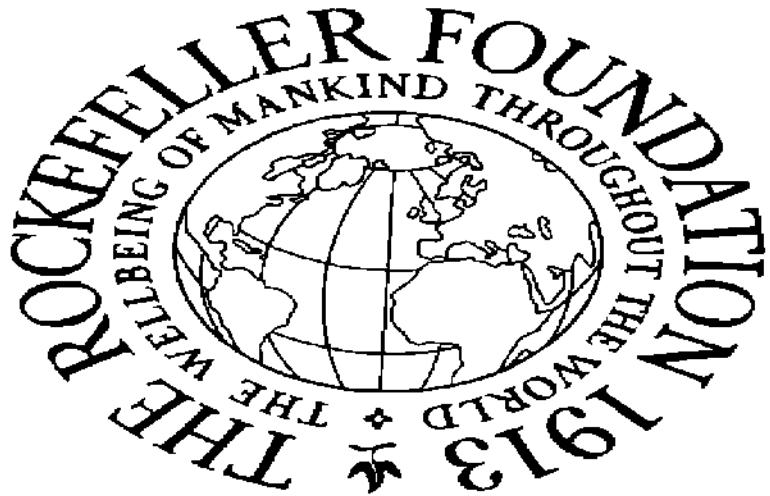
three in Jamaica, four in Porto Rico, two in Austria, one in Bulgaria, two in Czechoslovakia, four in France, four in Hungary, three in the Irish Free State, five in Poland, one in Spain, seven in Ceylon, three in China, two in India, one in the Philippine Islands, and one for four island groups in the South Pacific. This makes a total of sixty-three local health organizations aided outside of the United States.

In France during the past seven years six departments have been assisted in reorganizing their health services and in establishing these services on a modern full-time basis. It is interesting to note some of the things that have been accomplished. In Saône-et-Loire, for example, where a five-year period of cooperation was completed on December 31, 1930, there is now a full-time health personnel consisting of a departmental health officer, four assistants, three sanitary inspectors, two nurses, and an office force comprising three clerks. The excellent quarters occupied include a well-equipped diagnostic laboratory. The health officer, his assistants, and the sanitary inspectors are furnished with motor transportation. School medical inspection has been instituted, so that the majority of school children in the department receive a yearly medical examination. Vital statistics have been improved, until in 99 per



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The Mexican Hookworm Service, which has broadened its program to include general health work, maintains dental clinics and supervises dental hygiene instruction in the schools. The children shown above are going through their daily tooth-brush drill.



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Rural sanitary work in Java includes medical examination of school children.

cent of the deaths the cause of death is given. The reporting of communicable diseases has been greatly advanced. Work for the control of venereal diseases is under way, and persons suffering from these diseases may receive free treatment. Vaccination against smallpox conforms to a high standard. Immunization against diphtheria has been begun. Health education has been popularized by means of lectures, moving pictures, and the issuing of pamphlets, so that throughout the department the people are interested and cooperative. With the principle of full-time health service entirely established, the road has been opened for a complete unification of all public health activities.

In the Irish Free State the number of full-time county health units increased from seven in 1929 to fifteen in 1930, and in three additional counties plans for the establishment of local health organizations have been approved. In Poland, a country typifying the extraordinary interest in public health problems which has developed in Central Europe since the war, the number of local health centers had reached 115 by the close of 1930.

Aid to State Health Services

During 1930 the Foundation assisted eighteen state health departments in the United States

and the health administrations of twenty-nine foreign countries to develop and maintain certain essential services of their central health organizations. This type of work included aid to sanitary engineering services, public health laboratory service, divisions of epidemiology, bureaus of vital statistics, public health nursing, public health administration in general; to other state health services such as the Bureau of Health Education in Jamaica, the Division of Public Health Education in the Netherlands East Indies, the National Office of Social Hygiene in France, the Division of Field Work in the State Hygienic Institute of Hungary, the Division of Communicable Diseases and Child Hygiene in Iowa, the Bureau of Child Hygiene in North Dakota; and to school dental clinics in Jamaica, a school hygiene demonstration in Greater Shanghai, China, and the Bureau of Child Hygiene of the Department of Health in New York City.

A contribution was made toward developing a bureau of sanitary engineering in the State of Mysore, India. Advisory service by field representatives was furnished to various countries in Central America, and to Jamaica, Bulgaria, and Greece. In the United States grants were continued to further the work of divisions of sanitary engineering in North Dakota, South Dakota, and South Carolina.

Aid toward the development of public health laboratory service was continued in Colombia, Hungary, and Norway. In Bulgaria and Italy the national laboratory services will be expanded through the proposed institutes of hygiene and public health to be established in Sofia and Rome with Foundation aid. In the United States the state laboratories of Florida, Mississippi, South Carolina, and Tennessee were assisted.

The health departments of ten states in the United States were aided in developing their divisions of epidemiology; namely, Arizona, Kentucky, Maryland, Mississippi, Montana, New York, North Dakota, South Carolina, South Dakota, and Tennessee. During the year two articles dealing with the subject of epidemiology were written by staff members. One of these discusses the status of epidemiology in state and city health organizations in the United States; the other treats of epidemiology in smaller cities and in counties. A third paper deals with the requirements for health department personnel in the United States and the facilities for training these workers.

- Ferrell, J. A. Epidemiology in State and City Health Organizations. *American Journal of Public Health, and The Nation's Health*, 20: 623-627 (June) 1930.
Ramsey, G. H. Epidemiology in Local Health Departments. In press.
Ferrell, J. A. Training of Health Department Personnel. In press.

Further cooperation with state health services



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Hygiene booth at the annual fair, 1930, in Batavia, Java. The exhibit was devoted entirely to the fly danger.



Photograph Excised Here

Section of the hygiene exhibit at the Batavia fair showing various types of fly-traps.

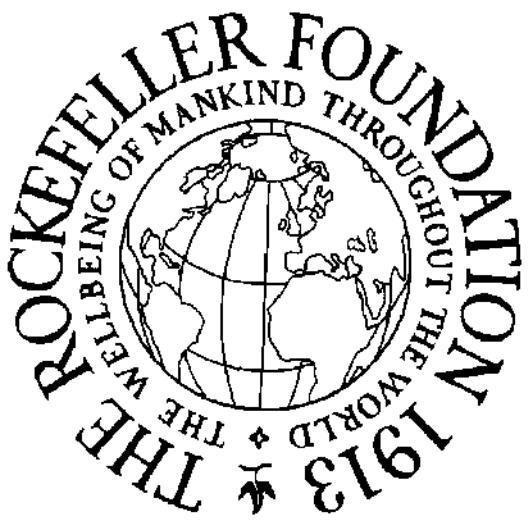
included aid for the strengthening of departments of vital statistics. Assistance of this kind was given in Denmark, Rumania, Spain, and Yugoslavia, and in the states of Oregon and Tennessee in the United States. In addition a grant was made to the Division of Vital Statistics in Massachusetts for the purpose of developing a tuberculosis statistical service.

For the furtherance of public health nursing, aid was given to the central health services of Brazil, Denmark, Hungary, and Yugoslavia, to the Central Bureau of Nurses in France, and to the Bureau of Public Health Nursing in Poland. In the United States funds were provided toward the development of the School of Nursing at the University of Washington.

Public Health Education

Training of Health Workers

At a number of centers throughout the world funds were provided for the establishment of training stations in which field training, frequently supplementing theoretical instruction in schools, could be given to men engaged in research or administrative public health work. In Europe, funds were continued to provide training at the malaria field station in Corsica and at another similar station at Navalmoral de la Mata, in the Province of Caceres, Spain.



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Partial view of the office of the demographic service of the State Department of Health, Rumania. The Foundation is assisting this department in developing its Division of Vital Statistics.



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One of the pavilions of the São Sebastião Hospital, Rio de Janeiro, where students of the Dr. Anna Nery School of Nursing of the National Department of Health of Brazil receive training in the care of patients with communicable diseases. The Foundation is cooperating with the Brazilian Government in the development of the nursing service of its national Department of Health.

LAWRENCE
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Aid was continued for the support of the Training School for Malariaologists conducted by the Malaria Experiment Station at Rome, Italy, the Field Training Station for County Health Personnel, located in Beauce County, Province of Quebec, Canada, the training activities carried on in the offices of the State Department of Health at Lansing, Michigan, and the Sunflower County Training Station situated within the Mississippi flood area, at Indianola, Mississippi.

In accordance with a five-year program which began in 1929, funds were given toward the support of the First Midwifery School at Peiping, China. In November, 1930, the remodeling of a large building, purchased as the permanent quarters of the school and the maternity hospital, was begun. In this building there will be 100 maternity beds. Pupils taking the two-year course will receive their training here. The present rented quarters accommodating twenty-five beds will be reserved for training students of the six-months course. The second class of a two-year midwifery course consisting of fourteen students was enrolled in September, 1930.

Aid was continued to the Central Medical School for Native Medical Students, at Suva, Fiji. According to the official reports of the school for the year 1930 there were thirty-five

students enrolled from an extensive registration area which embraces all the important island groups in the South Pacific. Eight students were graduated in 1930. In January, 1931, the three-year course will be superseded by one covering a period of four years. The aim of the school is to train a number of selected students as native medical practitioners who can bring medical help to large numbers of their own countrymen out of reach of other medical assistance, and who can also, by preventive measures, raise the general standard of health throughout the islands. The school publishes a helpful journal of its own, called *The Native Medical Practitioner*.

Schools and Institutes of Hygiene and Public Health

The various European schools of public health and hygiene have almost without exception come into existence during the last decade. Some of them are as yet in process of organization. Although the movement is still young, these schools already play an important rôle in public health work and will undoubtedly to an increasing extent influence methods and procedures. The time is not far distant when every practising health officer will have studied in some school of hygiene. As a rule, public health schools are remarkably successful in imbuing their students

with the crusader spirit. If the schools continue to supply sound fundamental training, no fear need be felt of lack of future leadership in public health work. Practical aims are kept in mind, but it is characteristic that as the work develops, more and more attention is paid to fundamental research. An encouraging development is the feeling of mutual confidence and interdependence of departments of public health, schools of hygiene, and university departments of hygiene.

Toward the establishment of centrally located and well-equipped public health institutes the Rockefeller Foundation is contributing in Bulgaria, Czechoslovakia, Hungary, Italy, Norway, and Turkey. A service school will constitute one of the three principal features of the new Institute of Public Health to be established at Sofia, Bulgaria, toward the construction and equipment of which the Rockefeller Foundation granted funds during 1930. An agreement to assist the government in the construction and equipment of a State Institute of Public Health at Prague, Czechoslovakia, was concluded July 12, 1930. In accordance with a five-year agreement effective in 1928, funds were continued toward the maintenance costs of a School for Health Officers in the State Hygienic Institute at Budapest, Hungary. In the new Institute of



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State Institute of Public Health, Oslo, Norway. The Foundation is assisting the Norwegian health authorities in establishing a school of public health in connection with this institute.



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Corner of one of the laboratories of the State Institute of Public Health,
Oslo.

Hygiene and Public Health at Rome, the Service School for Health Officers will be an important factor. Toward the construction and equipment of this new institute the Rockefeller Foundation appropriated funds during 1930. Aid was granted over a five-year period commencing July, 1930, to establish a School of Public Health in the State Institute of Public Health at Oslo, Norway. Funds were continued toward the cost of construction, installation, and equipment over a four-year period, beginning in 1929, of a service school in the Central Institute of Hygiene, at Angora, Turkey.

Fellowships and Future Workers

Experience in all countries indicates that one of the most important things in public health work is the vision, enthusiasm, and energy of the leaders. In nearly every progressive country there are one or two figures that personify the progress in public health. These are supported by a host of younger men less heralded but no less important. One of the factors in bringing about the peaceful social revolution represented by the upswing in public health work, especially in Europe, has been the invigorating contacts made by various leaders, young and old, due to fellowships, the travel of health officials, and the interchange of health personnel, sponsored by



Photograph Excised Here

State Institute of Public Health, Prague, Czechoslovakia, built with the aid of the Rockefeller Foundation.

such agencies as the League of Nations. With intelligent leadership there seems to be no lack of response from the public. Laymen everywhere stand ready to support and utilize health agencies, provided public health officials have the qualities of leadership.

In the training for such leadership the Rockefeller Foundation has played a part by providing opportunities for forty-four health executives and officials to inspect public health work in countries other than their own. Twenty of these traveling fellowships were given to health officers of the United States, Canada, and Mexico, sixteen to European health officials, who visited various countries in Europe, and eight to health officials of six different countries, who visited the United States.

The regular program of public health fellowships in which the Rockefeller Foundation has for a number of years been engaged was continued in 1930. The total number of public health fellowships active during the year was 173. These fellowships are given to graduates in medicine, of high professional standing, who before they accept the fellowships are assured of positions in the public health services of their own countries. The tabulations which follow indicate the countries from which the fellows of 1930 came and the specialties they studied.

INTERNATIONAL HEALTH DIVISION 107

INTERNATIONAL HEALTH DIVISION FELLOWSHIPS ACTIVE JANUARY 1 TO
DECEMBER 31, 1930

<i>Country of Source</i>	<i>Number Active</i>	<i>Country of Source</i>	<i>Number Active</i>
Austria.....	3	Japan.....	1
Brazil.....	8	Mexico.....	2
Bulgaria.....	4	Nicaragua.....	1
Canada.....	12	Norway.....	2
Ceylon.....	1	Philippines.....	2
China.....	18	Poland.....	2
Costa Rica.....	1	Porto Rico.....	4
Czechoslovakia.....	3	Rumania.....	5
Denmark.....	1	Salvador.....	1
France.....	5	Siam.....	1
Greece.....	5	Spain.....	2
Guatemala.....	2	Straits Settlements.....	1
Hungary.....	4	Turkey.....	5
India.....	8	United States.....	46
Irish Free State.....	1	Venezuela.....	2
Italy.....	12	Yugoslavia	5
Jamaica.....	3		
Total.....			173

DISTRIBUTION OF INTERNATIONAL HEALTH DIVISION FELLOWSHIPS
ACCORDING TO SUBJECT STUDIED

Public Health Administration.....	97
Public Health Laboratory Service.....	18
Vital Statistics.....	10
Industrial Hygiene.....	8
Nursing.....	20
Sanitary Engineering.....	12
Tuberculosis.....	1
Epidemiology.....	2
Communicable and Venereal Diseases.....	1
Parasitology.....	1
School Hygiene.....	1
Food Control.....	1
Infant and Child Welfare.....	1
Total.....	173

THE INTERNATIONAL HEALTH DIVISION STAFF DURING 1930

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Platt W. Covington, M.D.	George C. Payne, M.D.
Porter J. Crawford, M.D.	Elsmere R. Rickard, M.D.
Nelson C. Davis, M.D.	Paul F. Russell, M.D.
Walter C. Earle, M.D.	Louis Schapiro, M.D.
John E. Elmendorf, Jr., M.D.	Fred L. Soper, M.D.
John B. Grant, M.D.	Winfield C. Sweet, M.D.
Theodore B. Hayne, M.D.†	Richard M. Taylor, M.D.
Rolla B. Hill, M.D.	Andrew J. Warren, M.D.
N. Paul Hudson, M.D.*	Benjamin E. Washburn, M.D.
John L. Hydrick, M.D.	Clifford W. Wells, M.D.
William P. Jacocks, M.D.	D. Bruce Wilson, M.D.

Clark H. Yeager, M.D.

SPECIAL MEMBERS

Joseph D. Aronson, M.D.*	Johannes H. Bauer, M.D.
Marshall A. Barber	Alexander W. Burke, M.D.
Claude H. Barlow, M.D.	Joseph C. Carter

* Resigned.

† Died July 11, 1930.

‡ Died November 20, 1930.

John S. Cunningham, M.D.	Estus H. Magoon
Gordon E. Davis *	Jerome J. Mieldazis
William J. Doyle, M.D.	Meredith T. Olinger
Louis I. Dublin	Eugene L. Opie, M.D.
Brian R. Dyer	Ethel Parsons
Edward W. Flahiff, M.D.	J. Harland Paul, M.D.
Martin Frobisher, Jr.	Cornelius B. Philip *
Alpheus M. Goodman	George H. Ramsey, M.D.
Eugen Haagen, M.D.	J. Allen Scott
Willard V. King	Raymond C. Shannon
Stuart F. Kitchen, M.D.	Lucian C. Smith, M.D.*
Frederick W. Knipe	Hugh H. Smith, M.D.
Henry W. Kumm, M.D.	W. K. Stratman-Thomas, M.D.
Wray D. M. Lloyd, M.D.	Allen M. Walcott, M.D.

Daniel E. Wright

*Resigned.

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

ACTIVITY, COUNTRY, AND STATE	July 1, 1913- Dec. 31, 1923	1924	1925	1926
<i>Grand Total</i>	\$19,847,230.44	\$2,927,397.03	\$3,333,553.17	\$3,624,132.08
GENERAL BUDGET				
Local Health Departments.....	547,493.68	210,163.69	197,190.31	233,628.58
State Health Services..	81,692.57	66,502.11	97,815.12	75,369.71
Sanitary engineering	3,327.33	4,032.74	4,225.00	5,374.33
Public health laboratories.....	44,064.34	38,049.41	32,531.96	28,030.34
Epidemiology.....	2,126.34	5,529.62	10,414.62	11,053.47
Vital statistics.....	400.00	1,706.66	4,938.09	11,447.75
Public health nursing	30,284.27	16,450.23	45,705.45	19,109.36
Public health administration.....
Other services	1,490.29	733.45	354.46
Bureaus for Study and Reform of Public Health Activities...	42,550.44	17,720.00	32,540.99	30,644.22
Health Organization of League of Nations ..	113,960.89	151,400.60	179,096.14	126,942.14
Public Health Education.....	520,238.40	250,540.35	301,052.09	357,872.42
Control of Specific Diseases; Investigations	6,324,487.85	977,752.44	807,129.13	828,081.90
Hookworm.....	2,647,660.20	231,919.79	201,401.95	175,977.76
Malaria.....	466,412.47	133,102.29	144,034.49	177,801.93
Yellow fever.....	899,431.35	545,636.76	450,045.08	474,302.21
Respiratory diseases.....
Verruga peruana
Tuberculosis.....	2,310,983.83	67,093.60	11,647.61
Epidemiological studies.....
Sanitation.....
Undulant fever.....
Public health surveys.....
Field Service.....	2,745,112.45	608,089.68	610,919.99	666,773.33
Miscellaneous.....	175,937.82	8,117.35	7,878.20	10,769.61
BUILDINGS, EQUIPMENT, AND ENDOWMENT				
Schools and Institutes of Hygiene and Public Health.....	9,295,756.34	637,110.81	1,099,931.20	1,263,839.32
Schools of Nursing.....	30,210.85

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

INTERNATIONAL HEALTH DIVISION

III

1913-1930, Inclusive, Covering All Activities

1927	1928	1929	1930	Total
\$3,842,559.94	\$3,074,732.83	\$3,552,939.56	\$2,233,311.89	\$42,435,856.94
353,107.38	454,495.95	479,859.49	335,443.03	2,811,382.11
86,944.45	119,369.23	157,411.66	139,006.84	824,111.69
5,510.53	8,242.06	11,170.54	5,861.85	47,744.38
27,391.79	25,489.57	21,678.48	11,022.79	228,258.68
18,913.30	22,802.67	36,276.00	37,202.56	144,318.58
12,842.73	19,257.68	42,616.57	23,512.25	116,721.73
20,831.69	13,525.09	17,945.78	10,413.00	174,264.87
1,454.41	30,052.16	27,724.29	8,819.56	8,819.56
			42,174.83	103,983.89
34,390.90	26,654.59	18,294.92	202,796.06
124,321.20	123,497.81	122,655.17	941,873.95
362,885.07	325,936.61	435,879.02	309,390.93	2,863,794.89
672,110.20	558,064.41	594,487.25	618,957.30	11,381,070.48
143,638.71	94,245.99	77,678.29	55,396.04	3,627,918.73
201,343.68	188,553.09	190,511.93	146,256.95	1,648,016.83
326,085.60	266,783.21	314,288.37	366,737.88	3,643,310.46
1,042.21	2,680.32	4,442.37	6,528.52	14,693.42
	1,295.82	1,295.82
	4,100.97	5,786.58	31,103.27	2,430,715.86
			6,739.87	6,739.87
	405.01	1,466.61	773.24	2,644.86
		5,191.17	5,191.17
		313.10	230.36	543.46
678,066.41	712,918.89	705,208.08	704,916.65	7,432,005.48
16,988.76	19,279.89	12,031.36	13,572.85	264,575.84
1,414,262.06	734,515.45	1,027,112.61	112,024.29	15,584,552.08
99,483.51	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, 1923	1924	1925	1926
GENERAL BUDGET (Cont.)				
Local Health Departments (Cont.)				
United States.....	\$547,493.68	\$210,163.69	\$197,190.31	\$233,628.58
Alabama.....	494,618.69	173,928.32	159,314.43	152,793.57
Arizona.....	54,523.20	10,580.09	6,111.06	8,276.84
Arkansas.....	1,335.10	2,367.78
California.....	6,458.33	7,187.49	7,500.00	5,249.98
Colorado.....	1,875.00	2,500.00
Florida.....	1,009.83	750.00
Georgia.....	8,666.57	1,588.63	1,518.08	3,447.57
Idaho.....
Illinois.....	2,766.65	1,725.00	1,650.00	750.00
Indiana.....	3,891.66
Iowa.....	181.33	2,361.76	1,625.90	3,600.00
Kansas.....	23,657.79	6,648.29	2,908.36	3,747.28
Kentucky.....	48,971.11	15,631.73	11,321.01	11,710.60
Louisiana.....	33,835.87	10,894.34	6,009.57	5,499.61
Maryland.....	15,380.80
Michigan.....
Minnesota.....	2,585.53	2,789.44	625.00
Mississippi.....	47,605.10	12,252.91	11,081.99	8,256.25
Missouri.....	18,643.33	7,350.00	5,155.00	7,322.13
Montana.....
New Mexico.....	24,390.59	11,240.19	6,516.00	5,691.68
North Carolina.....	30,625.02	10,836.22	8,981.33	7,500.00
Oklahoma.....	3,283.96	10,782.94	12,995.48
Oregon.....	3,298.95	8,116.42	10,307.79	9,396.77
South Carolina.....	43,883.93	13,489.00	12,848.94	10,191.39
South Dakota.....	3,645.82	5,000.00	2,702.77
Tennessee.....	38,056.69	11,507.59	9,126.74	12,555.63
Texas.....	28,400.37	8,636.57	10,514.57	6,668.13
Utah.....	1,066.83	2,553.75	3,678.47
Virginia.....	37,002.57	8,687.40	9,456.96	7,943.43
Washington.....	2,500.00	2,291.66
West Virginia.....	20,383.72	8,606.13	9,719.05	9,819.24
Wyoming.....	399.75	2,462.51	2,498.63	922.54
Mississippi flood area.....
Arkansas.....
Illinois.....
Kentucky.....
Louisiana.....
Mississippi.....
Missouri.....
Tennessee.....
Training station.....

* Reports incomplete.

1913-1930, Inclusive, Covering All Activities—Continued

1927	1928	1929	1930	Total
\$353,107.38	\$454,495.95	\$479,859.49	\$335,443.03	\$2,811,382.11
226,921.68	304,880.03	312,580.05	227,557.25	2,052,594.02
5,969.07	7,337.80	25,862.46	8,151.32	✓126,811.84
			2,045.82	2,045.82
2,038.45	1,771.20	1,800.00		9,312.53
6,291.67	6,583.33	7,562.50	7,972.31	54,805.61
2,000.00	2,000.00	1,000.00	500.00	9,875.00
				1,759.83
3,961.03	5,924.57	10,067.57	8,899.05	44,073.07
		375.00	2,062.50	2,437.50
				6,891.65
				3,891.66
3,100.00	3,300.00	2,150.00	*2,394.58	18,713.57
2,525.00	2,343.76	3,541.67	5,052.05	50,424.20
11,892.46	11,744.10	10,737.22	9,799.58	✓131,807.81
7,464.69	7,979.57	6,417.22	2,981.16	81,172.03
			*	15,380.80
	6,605.13	10,010.02	9,599.37	26,214.52
				5,999.97
13,389.00	11,554.18	20,294.88	*8,452.04	✓132,886.35
5,195.00	5,064.00	4,637.50	5,850.00	59,216.96
	1,283.34	1,200.00	2,483.34
3,179.07	2,795.26	53,812.79
5,000.00		62,942.57
11,786.18	12,245.81	8,546.11	5,120.83	64,761.31
9,077.41	5,795.18	4,350.00		50,342.52
9,802.26	11,108.94	14,700.00	16,608.33	✓132,632.79
1,312.50	1,698.25	14,359.34
12,565.67	16,595.12	16,093.75	13,442.75	✓129,943.94
3,245.23	1,150.00	100.00	3,146.75	61,861.62
4,434.80	3,687.50	750.00		16,171.35
14,583.15	16,326.00	14,805.88	9,389.80	✓118,195.19
				4,791.66
15,258.61	16,374.38	15,274.47	16,242.87	✓111,678.47
856.80	890.73	8,030.96
71,993.63	142,721.88	133,503.80	88,646.14	436,865.45
7,443.28	*37,186.11	35,601.84	*24,271.29	104,502.52
	1,750.84	1,273.63		3,024.47
6,404.93	19,414.39	19,965.14	15,544.78	61,329.24
6,623.11	41,198.13	44,755.59	30,629.47	123,206.30
6,639.55	13,969.72	17,385.55	*7,511.09	45,505.91
1,354.86	4,198.28	1,960.00	725.62	8,238.76
1,574.86	2,307.36	2,465.06	750.00	7,097.28
41,953.04	22,697.05	10,096.99	9,213.89	83,960.97

Table of Expenditures for Public Health Work for the Years

ACTIVITY, COUNTRY, AND STATE	July 1, 1913- Dec. 31, 1923	1924	1925	1926
GENERAL BUDGET (Cont.)				
Local Health Departments (Cont.)				
Foreign countries...	\$52,874.99	\$36,235.37	\$37,875.88	\$80,835.01
Canada.....	29,652.83	24,347.17	6,875.36
Mexico.....	20,326.08	36,818.70
Europe.....	2,823.85	4,678.31
Austria.....	297.62
Bulgaria.....	18,657.19
Czechoslovakia.....	498.52
France.....	3,441.75
Hungary.....
Irish Free State.....
Poland.....	14,060.48	12,687.06
Spain.....
Yugoslavia.....
Central America.....
Guatemala.....
West Indies.....	607.31
Porto Rico.....	607.31
Jamaica.....
South America.....	23,222.16	11,888.20	17,186.46	36,533.64
Brazil.....	23,222.16	11,888.20	17,186.46	36,533.64
Paraguay.....
The East.....	363.34
Ceylon.....
India.....
Philippine Islands.....	363.34
Shanghai, China.....
Siam.....
State Health Services	81,692.57	66,502.11	97,815.12	75,369.71
Sanitary Engineering	3,327.33	4,032.74	4,225.00	5,374.33
United States.....	3,327.33	4,032.74	4,225.00	5,374.33
Alabama.....	1,447.85
Colorado.....	1,200.00	800.00
Connecticut.....	375.00
Idaho.....	1,600.00	1,578.67
Indiana.....
Iowa.....	58.33
Maine.....	350.00	700.00
Missouri.....	1,418.43
Montana.....	927.57	1,855.01	950.00
North Dakota.....	477.73
Oregon.....	1,214.30

* Reports incomplete.

1913-1930, Inclusive, Covering All Activities—Continued

1927	1928	1929	1930	Total
\$126,185.70	\$149,615.92	\$167,279.44	\$107,885.78	\$758,788.09
15,199.57	26,138.45	38,806.84	*42,827.19	183,847.41
.....	2,239.15	4,402.03	4,544.54	11,185.72
78,362.35	86,729.80	88,752.04	30,453.46	341,442.43
4,136.98	3,631.88	7,081.63	7,509.94	29,862.59
3,007.46	1,374.91	1,273.28	5,655.65
4,318.76	10,730.74	7,627.25	5,675.69	28,650.06
24,486.47	19,728.57	17,101.22	*4,546.26	87,961.46
500.00	5,675.90	6,674.42
.....	5,675.80	16,432.33	22,108.13
27,912.68	19,912.00	23,669.70	*5,833.69	104,075.61
.....	15,566.63	6,887.88	22,454.51
14,000.00	20,000.00	34,000.00
.....	2,116.45	2,116.45
.....	2,116.45	2,116.45
4,495.10	5,289.43	8,017.32	11,140.11	29,549.27
4,495.10	4,710.16	5,233.06	5,704.93	20,750.56
.....	579.27	2,784.26	5,435.18	8,798.71
27,934.56	27,673.62	16,770.99	3,683.15	164,892.78
27,934.56	27,673.62	16,710.77	3,683.15	164,832.56
.....	60.22	60.22
194.12	1,545.47	10,530.22	13,120.88	25,754.03
144.10	166.56	310.66
.....	3,168.91	6,410.76	9,579.67
50.02	491.63	*900.62	1,805.61
.....	6,869.68	5,809.50	12,679.18
.....	1,378.91	1,378.91
86,944.45	119,369.23	157,411.66	139,006.84	824,111.69
5,510.53	8,242.06	11,170.54	5,861.85	47,744.38
5,510.53	8,242.06	8,261.01	5,861.85	44,834.85
1,334.12	2,781.97
.....	2,000.00
.....	375.00
1,600.00	1,599.89	800.00	7,178.56
.....	2,756.15	2,573.37	5,329.52
349.98	408.31
350.00	1,400.00
.....	1,418.43
.....	536.02	1,500.00	1,452.36	3,732.58
733.10	3,966.11
			1,947.40

Table of Expenditures for Public Health Work for the Years

ACTIVITY, COUNTRY, AND STATE	July 1, 1913- Dec. 31, 1923	1924	1925	1926
GENERAL BUDGET (Cont.)				
State Health Services (Cont.)				
Sanitary Engineering (Cont.)				
United States (Cont.)	\$.....	\$.....	\$.....	\$.....
South Carolina..	981.33	500.00	150.00	375.18
South Dakota..				
Tennessee.....				
Utah.....				
Foreign countries.
India, Mysore State.....				
Poland.....				
Public Health Laboratories.....	44,064.34	38,049.41	32,531.96	28,030.34
United States.....	29,813.80	28,248.64	21,657.65	18,331.20
Alabama.....	13,234.50	12,560.85	7,479.00	7,494.53
Arkansas.....	1,676.16	3,836.39	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
Mississippi.....	
Missouri.....	874.99	2,067.41	1,771.48	2,049.17
Montana.....	676.74	2,100.00	1,050.00
Oregon.....	900.00	2,688.37	1,120.32	340.98
South Carolina..		498.92	300.00
Tennessee.....	850.00	166.66	2,301.16	938.13
Texas.....	899.51	70.83	2,789.82
Utah.....		1,900.00	2,775.00	2,868.92
Virginia.....		1,053.96	995.53	249.65
Demonstrations	215.33
Foreign countries.	14,250.54	9,800.77	10,874.31	9,699.14
Colombia.....		410.50
Costa Rica.....	303.14	2,994.39	3,633.12	2,757.05
Guatemala.....	2,510.61	1,715.94	1,546.64	1,572.68
Honduras.....	698.37
Hungary.....	
Nicaragua.....	5,802.40	5,090.44	5,694.55	4,958.91
Salvador.....	4,720.69
Epidemiology.....	2,126.34	5,529.62	10,414.62	11,053.47
United States.....	2,126.34	5,529.62	10,414.62	11,053.47
Alabama.....		2,229.04	5,049.68	2,277.26
Arizona.....	

* Reports incomplete.

INTERNATIONAL HEALTH DIVISION

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1913-1930, Inclusive, Covering All Activities—Continued

1927	1928	1929	1930	Total
\$.....	\$3,350.00	\$2,500.00	\$2,100.00	\$7,950.00
1,143.33	887.64	2,309.49	3,197.13
.....	1,518.51
.....	1,631.33
.....	2,909.53	2,909.53
.....	1,763.60	1,763.60
.....	*1,145.93	1,145.93
27,391.79	25,489.57	21,678.48	11,022.79	228,258.68
16,387.39	12,757.31	9,456.49	5,235.83	141,888.31
5,403.75	46,172.63
.....	6,707.96
.....	2,175.00
.....	1,500.00
.....	900.00	900.00
.....	444.43	10,701.90
780.00	444.43
3,600.00	4,350.00	3,753.99	*1,800.00	2,680.00
.....	1,800.00	5,553.99
.....	16,513.05
.....	3,826.74
.....	1,000.00	1,000.00	600.00	5,049.67
985.00	1,754.36	2,902.50	1,935.83	3,398.92
2,992.40	650.00	11,833.64
2,626.24	3,058.52	7,402.56
.....	1,500.00	13,228.68
.....	3,799.14
.....	215.33
11,004.40	12,732.26	12,221.99	5,786.96	86,370.37
4,896.99	4,910.49	4,859.44	4,842.54	19,919.96
175.00	9,862.70
1,268.24	4,446.99	492.55	13,553.65
.....	1,000.00	1,698.37
.....	1,870.00	944.42	2,814.42
4,664.17	3,374.78	4,000.00	33,585.25
.....	4,720.69
18,913.30	22,802.67	36,276.00	37,202.56	144,318.58
16,772.78	17,925.40	25,939.33	28,862.58	118,624.14
3,977.77	13,533.75
.....	2,612.50	2,612.50

Table of Expenditures for Public Health Work for the Years

ACTIVITY, COUNTRY, AND STATE	July 1, 1913- Dec. 31, 1923	1924	1925	1926
GENERAL BUDGET (Cont.)				
State Health Services (Cont.)				
Epidemiology (Cont.)				
United States (Cont.)				
Georgia.....	\$.....	\$.....	\$.....	\$.....
Iowa.....			236.62	406.72
Kansas.....				
Kentucky.....				
Louisiana.....				
Maryland.....				1,819.08
Mississippi.....				
Montana.....				
New York.....				
North Carolina.....				
North Dakota.....				
Rhode Island			537.68	1,653.79
South Carolina.....				193.75
South Dakota.....				1,142.32
Tennessee.....			924.33	2,701.05
Utah.....	151.14	2,550.58	2,735.35	859.50
Virginia.....	1,975.20	750.00	930.96	
Conference of epidemiolo- gists.....				
Foreign countries.....				
Canada.....				
Denmark.....				
Spain.....				
Vital Statistics.....	400.00	1,706.66	4,938.09	11,447.75
United States.....	400.00	1,706.66	4,938.09	9,866.56
Alabama.....			665.00	847.50
Arkansas.....				1,350.00
Georgia.....	400.00			
Iowa.....				2,100.00
Massachusetts.....				
Mississippi.....			700.00	882.38
Montana.....			1,250.00	2,500.00
New Mexico.....				
Oklahoma.....				686.68
Oregon.....				
South Carolina.....				
Tennessee.....			1,273.09	1,500.00
Texas.....				
West Virginia.....		1,706.66	1,050.00	

* Reports incomplete.

INTERNATIONAL HEALTH DIVISION 119

1913-1930, Inclusive, Covering All Activities—Continued

1927	1928	1929	1930	Total
\$.....	\$.....	\$812.50	\$.....	\$812.50
228.96	2,200.00	2,200.00
1,930.25	1,788.28	3,500.00	3,500.00	872.30
3,337.50	1,490.92	5,172.50	4,200.00	8,788.28
.....	2,625.00	3,500.00	3,500.00	1,930.25
.....	340.00	1,819.08
.....	3,543.75	4,725.00	14,200.92
.....	1,108.74	2,700.00	2,700.00	9,625.00
854.58	340.00
775.00	3,175.00	2,500.00	2,100.00	8,268.75
1,275.00	1,004.33	2,300.00	3,046.05
2,453.23	2,250.00	2,025.00	5,410.08	8,743.75
600.00	1,943.71	5,721.65
.....	15,763.69
1,340.49	8,840.28
2,140.52	4,877.27	10,336.67	8,339.98	3,656.16
2,140.52	4,877.27	876.93	*1,654.32	1,340.49
.....	5,355.91	5,374.54	25,694.44
.....	4,103.83	1,311.12	2,531.25
12,842.73	19,257.68	42,616.57	23,512.25	17,748.24
9,234.97	7,656.16	16,593.29	3,435.00	5,414.95
990.00	116,721.73
750.00	53,830.73
.....	1,200.00	1,200.00	2,502.50
1,500.00	2,100.00
2,204.97	902.73	3,270.50	1,960.00	2,800.00
1,250.00	3,600.00
.....	600.00	2,400.00	1,960.00
500.00	7,960.58
.....	375.00	5,000.00
290.00	1,250.00	3,000.00
1,750.00	1,000.00	1,050.00	1,100.00	1,186.68
.....	2,703.43	8,672.79	375.00
.....	1,540.00
.....	7,673.09
.....	11,376.22
.....	2,756.66

Table of Expenditures for Public Health Work for the Years

ACTIVITY, COUNTRY, AND STATE	July 1, 1913- Dec. 31, 1923	1924	1925	1926
GENERAL BUDGET (Cont.)				
State Health Services (Cont.)				
Vital Statistics (Cont.)				
Foreign countries	\$.....	\$.....	\$.....	\$1,581.19
Bulgaria
Colombia	1,581.19
Denmark
France
Rumania
Spain
Yugoslavia
Public Health Nursing	30,284.27	16,450.23	45,705.45	19,109.36
Brazil	30,284.27	16,450.23	19,966.72	15,510.29
Denmark
France	25,738.73	3,599.07
Hungary
Poland
Yugoslavia
Public Health Administration
Porto Rico
Other State Health Services	1,490.29	733.45	354.46
United States
Illinois
Iowa
Nevada
New York
North Carolina
North Dakota
South Carolina
Foreign countries	1,490.29	7,334.45	354.46
Austria
Bulgaria
Canada	577.93
Hungary
Jamaica	354.46
Netherlands
East Indies
Norway
Philippine Islands	1,490.29	155.52
Poland

* Reports incomplete.

1913-1930, Inclusive, Covering All Activities—Continued

1927	1928	1929	1930	Total
\$3,607.76	\$11,601.52	\$26,023.28	\$20,077.25	\$62,891.00
1,139.50	1,139.50
863.67	863.67
1,604.59	1,608.31	2,401.95	789.48	7,985.52
.....	4,111.51	4,111.51
.....	11,764.18	11,764.18
.....	8,175.14	4,719.98	12,895.12
.....	9,993.21	11,334.68	2,803.61	24,131.50
20,831.69	13,525.09	17,945.78	10,413.00	174,264.87
17,269.63	11,041.93	5,952.13	2,727.89	119,203.09
.....	4,678.35	5,626.39	10,304.74
3,562.06	2,483.16	5,674.99	*.....	41,058.01
.....	1,140.31	1,308.72	2,449.03
.....	500.00	750.00	1,250.00
.....	8,819.56	8,819.56
.....	8,819.56	8,819.56
1,454.41	30,052.16	27,724.29	42,174.83	103,983.89
900.00	7,742.22	5,685.41	18,325.43	32,653.06
100.00	236.67	50.00	386.67
800.00	1,600.00	1,833.33	4,233.33
.....	17,250.00	17,250.00
.....	468.75	750.00	1,218.75
.....	4,805.55	3,333.33	8,138.88
.....	325.43	325.43
.....	1,100.00	1,100.00
554.41	22,309.94	22,038.88	23,849.40	71,330.83
.....	704.69	704.69
.....	577.93
.....	9,206.71	1,973.19	3,246.55	14,426.45
554.41	590.97	691.87	2,183.34	4,375.05
.....	11,469.42	16,620.28	9,885.75	37,975.45
.....	1,448.36	7,112.24	8,560.60
.....	338.15	1,305.18	1,421.52	1,645.81
.....	3,064.85

Table of Expenditures for Public Health Work for the Years

ACTIVITY, COUNTRY, AND STATE	July 1, 1913– Dec. 31, 1923	1924	1925	1926
GENERAL BUDGET (Cont.)				
Bureaus for Study and Reform of Public Health Activities . . .	\$42,550.44	817,720.00	332,540.99	\$30,644.22
Czechoslovakia	42,550.44	12,720.00	7,720.00	7,720.00
France	5,000.00	13,638.69	10,614.56
Hungary	4,987.67	5,000.00
Poland	6,194.63	7,309.66
Health Organization of League of Nations . .	113,960.89	151,400.60	179,096.14	126,942.14
Interchange of public health personnel . .	78,100.00	91,353.22	99,866.49	73,484.58
Epidemiological Intelligence and Public Health Statistics Service, and Center of Public Health Documentation	35,860.89	53,508.91	52,427.38	40,810.43
Epidemiological Intelligence Bureau, Far East	26,802.27	12,647.13
Travel expenses of delegate to public health conference	3,087.38
Conference in Singapore	3,451.09
Public Health Education	520,238.40	250,540.35	301,052.09	357,872.42
Fellowships	412,110.94	182,424.90	230,514.57	270,661.77
Study and training courses and travel of visiting scientists and health workers	25,665.02	36,088.04	24,983.20	48,174.21
Training stations	1,860.06	18,480.38	8,568.24
United States	1,860.06	18,480.38	8,568.24
Alabama	1,860.06	18,480.38	8,568.24
Michigan
Ohio
Foreign countries
Canada
Italy

* Reports incomplete.

INTERNATIONAL HEALTH DIVISION 123

1913-1930, Inclusive, Covering All Activities—Continued

1927	1928	1929	1930	Total
\$34,390.90	\$26,654.59	\$18,294.92	\$202,796.06
7,594.47				78,304.91
12,212.76	11,932.79	11,794.97	65,193.77
4,991.74	4,993.83	1,500.00	21,473.24
9,591.93	9,727.97	4,999.95	37,824.14
124,321.20	123,497.81	122,655.17	941,873.95
49,817.98	51,206.90	49,733.63	493,562.80
49,503.22	58,587.35	52,627.63	343,325.81
25,000.00	13,703.56	20,293.91	98,446.87
.....	3,087.38
.....	3,451.09
362,885.07	325,936.61	435,879.02	309,390.93	2,863,794.89
262,109.47	209,078.69	327,616.73	227,725.31	2,122,242.38
42,498.76	46,407.49	52,602.05	40,112.70	316,531.47
12,702.46	25,214.71	8,514.60	14,675.86	90,016.31
12,702.46	19,784.90	2,859.06	6,466.69	70,721.79
6,024.80	11,795.11	46,728.59
.....	1,831.31	6,466.69	8,298.00
6,677.66	7,989.79	1,027.75	15,695.20
.....	5,429.81	5,655.54	8,209.17	19,294.52
.....	456.62	4,250.36	4,706.98
.....	5,429.81	5,198.92	3,958.81	14,587.54

Table of Expenditures for Public Health Work for the Years

ACTIVITY, COUNTRY, AND STATE	July 1, 1913- Dec. 31, 1923	1924	1925	1926
GENERAL BUDGET (Cont.)				
Public Health Education (Cont.)				
Teaching of hygiene in medical schools	\$34.69	\$.....	\$.....	\$5,500.00
Committee of Association of American Medical Colleges.				
Study.....	34.69
Harvard Medical School				
Preparation of syllabus....		5,500.00
Central Medical School for Native Medical Students, Suva, Fiji.....				
First Midwifery School, Peiping, China.....				
Schools of hygiene and public health				
Maintenance.....	82,427.75	30,167.35	27,073.94	24,968.20
Brazil, São Paulo	80,227.75	7,613.95	4,065.22	25.95
England, London	15,953.40	20,008.72	20,262.25
Hungary, Budapest.....				
Poland, Warsaw	2,200.00	6,600.00	3,000.00	4,680.00
Control of Specific Diseases; Investigations	6,324,487.85	977,752.44	807,129.13	828,081.90
Hookworm.....	2,647,660.20	231,919.79	201,401.95	175,977.76
Control.....	2,505,917.03	208,059.12	185,477.36	149,047.17
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
South Carolina.....	65,072.26
Tennessee....	54,649.32

* Reports incomplete.

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

1913-1930, Inclusive, Covering All Activities—Continued

1927	1928	1929	1930	Total
\$8,500.00	\$.....	\$.....	\$.....	\$14,034.69
.....	34.69
8,500.00	*.....	14,000.00
9,660.00	25,752.59	20,867.30	15,388.56	71,668.45
.....	1,982.51	11,488.50	13,471.01
27,414.38	19,483.13	24,295.83	235,830.58
19,414.38	19,483.13	24,295.83	91,932.87
.....	119,417.71
3,680.00	*.....	3,680.00
4,320.00	20,800.00
672,110.20	558,064.41	594,487.25	618,957.30	11,381,070.48
143,638.71	94,245.99	77,678.29	55,396.04	3,627,918.73
108,725.75	60,806.83	39,498.14	11,600.47	3,269,131.87
.....	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

programs of the rapidly developing county departments of health. The period of transition being the states the county health departments would henceforth assume, as one of their regular functions, diseases.

Table of Expenditures for Public Health Work for the Years

ACTIVITY, COUNTRY, AND STATE	July 1, 1913– Dec. 31, 1923	1924	1925	1926
GENERAL BUDGET (Cont.)				
Control of Specific Diseases; Investigations (Cont.)				
Hookworm (Cont.)				
Control (Cont.)				
United States (Cont.)				
Texas.....	\$53,688.83	\$.....	\$.....	\$.....
Virginia.....	51,289.28
County dispensary work in the South	4,796.92
West Indies....	460,815.94	75,321.64	49,075.91	21,647.96
Antigua.....	15,870.14
British Guiana *.....	73,957.52
Dutch Guiana *.....	60,073.91
Grenada.....	39,307.32
Haiti.....		3,763.42	6,332.54
Jamaica.....	36,837.44	18,703.14	25,481.08	15,902.41
Porto Rico....	48,816.15	21,233.70	17,262.29	5,745.55
St. Lucia.....	72,134.06	9,874.96
St. Vincent....	22,889.48
Trinidad.....	79,898.81	21,746.42
Administration.....	11,031.11
Central America	544,855.81	35,300.36	24,721.10	15,050.40
Costa Rica....	112,722.66	4,877.16	3,754.50	750.00
Guatemala....	102,525.31	9,338.14	7,937.14	4,474.41
Honduras....	10,454.22	1,208.48
Nicaragua....	107,282.01	2,498.89
Panama.....	164,887.35	17,377.69	13,029.46	9,825.99
Salvador....	45,366.89
Administration.....	1,617.37
Mexico.....	18,552.81	21,525.12	13,606.00
South America..	782,429.81	42,117.61	50,528.74	54,266.75
Brazil.....	741,375.18	28,291.02	11,389.92
Colombia....	41,054.63	4,295.47	20,115.55	34,920.11
Paraguay....	9,531.12	19,023.27	19,346.64
Venezuela....

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

INTERNATIONAL HEALTH DIVISION

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1913-1930, Inclusive, Covering All Activities—Continued

1927	1928	1929	1930	Total
\$.....	\$.....	\$.....	\$.....	\$53,688.83 51,289.28
.....	4,796.92
12,252.21	15,090.67	14,206.28	648,410.61
.....	15,870.14
.....	73,957.52
.....	60,073.91
.....	39,307.32
.....	10,095.96
9,648.49	6,436.07	3,403.28	116,411.91
2,603.72	8,654.60	10,803.00	115,119.01
.....	82,009.02
.....	22,889.48
.....	101,645.23
.....	11,031.11
9,919.77	6,618.89	2,772.17	639,238.50
.....	122,104.32
3,138.04	1,740.21	129,153.25
.....	11,662.70
.....	109,780.90
6,781.73	4,878.68	2,772.17	219,553.07
.....	45,366.89
.....	1,617.37
6,855.39	60,539.32
39,723.68	20,939.45	13,999.15	6,981.08	1,010,986.27
.....	781,056.12
24,762.95	14,813.01	13,725.26	6,981.08	160,668.06
12,436.98	5,544.72	273.89	66,156.62
2,523.75	581.72	3,105.47

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, 1923	1924	1925	1926
GENERAL BUDGET (Cont.)				
Control of Specific Diseases; Investigations (Cont.)				
Hookworm (Cont.)				
Control (Cont.)				
Europe.....	\$.....	\$699.36	\$4,948.21	\$939.00
Spain.....	699.36	4,948.21	939.00
The East.....	278,729.43	36,067.34	34,653.28	43,537.06
Australia.....	86,831.67	7,747.06
British North Borneo.....	4,782.10
Ceylon.....	48,459.72	100.29	257.72	332.21
China.....	8,099.03
Egypt.....	16,769.60
Fiji Islands.....	13,796.82	1,611.09	188.03
India.....	3,697.20	8,307.39	7,921.26	4,497.94
Java.....	327.66	2,500.57	5,156.80	10,410.92
Mauritius.....	4,315.60
Sarawak.....
Seychelles Islands.....	17,559.49	487.82	229.38
Siam.....	47,578.94	15,570.90	16,205.27	15,890.97
South Pacific Islands.....	230.04
Straits Settlements.....	4,436.38	12,175.64
Administration.....	26,511.60
Investigations	68,979.79	21,810.80	15,751.31	26,822.10
Alabama.....	2,403.52	4,869.46	4,784.17	3,630.34
Brazil.....	1,227.31
Ceylon.....	460.91
Egypt.....
Research in life history of hookworm eggs and larvae.....	16,134.46	10,573.05	9,067.14	18,903.19
Research in carbon tetrachloride.....	8,455.85	5,852.36	1,900.00	4,288.57
Study of methods of diagnosing hookworm disease.....	1,302.52

INTERNATIONAL HEALTH DIVISION

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1913-1930, Inclusive, Covering All Activities—Continued

1927	1928	1929	1930	Total
\$1,517.39	\$3,155.86	\$2,806.91	\$2,015.61	\$16,082.34
1,517.39	3,155.86	2,806.91	2,015.61	16,082.34
38,457.31	15,001.96	5,713.63	2,603.78	454,763.79
.....	94,578.73
.....	4,782.10
.....	49,149.94
.....	4,692.69	2,603.78	8,099.03
.....	24,066.07
4,258.40	3,547.80	15,595.94
8,471.49	32,229.99
.....	26,867.44
584.42	4,315.60
.....	584.42
12,279.42	5,120.44	1,020.94	18,276.69
800.00	113,666.88
12,063.58	6,333.72	35,009.32
.....	26,511.60
34,881.55	33,375.05	38,180.15	43,795.57	283,596.32
3,839.46	6,226.18	8,021.32	9,734.28	43,508.73
.....	1,227.31
5,236.79	4,244.06	4,562.43	460.91
.....	14,043.28
7,876.34	7,152.85	6,817.13	6,268.61	82,792.77
17,928.96	19,996.02	19,097.64	23,230.25	100,749.65
.....	1,302.52

Table of Expenditures for Public Health Work for the Years

ACTIVITY, COUNTRY, AND STATE	July 1, 1913- Dec. 31, 1923	1924	1925	1926
GENERAL BUDGET (Cont.)				
Control of Specific Diseases; Investigations (Cont.)				
Hookworm (Cont.)				
Investigations (Cont.)				
Study of hook-worm in the pig.....	\$.....	\$515.93	\$.....	\$.....
Uncinariasis Commission to Orient.....	38,995.22	2,015.21	173.28
Surveys.....	37,939.33	197.01
United States.....	28,112.38	197.01
Georgia.....	28,112.38	197.01
West Indies.....	4,018.31	1,818.20	173.28
Barbadoes.....	515.04
Cayman Islands.....	222.93
Dominica.....	89.32	840.82
Jamaica.....	1,671.82
Montserrat-Nevis.....	149.14	173.28
Porto Rico.....	525.52
Santo Domingo.....	388.09
St. Kitts.....	179.68	828.24
Tobago.....	425.91
Central America	2,982.17
British Honduras.....	2,982.17
South America	1,984.82
Colombia.....	1,984.82
The East.....	841.65
British Solomon Islands	841.65
Miscellaneous.....	34,824.05	34.66	108.49
Conferences of health officers.....	7,552.87
Motion picture film on hook-worm disease.....	4,402.47	34.66	108.49
Thymol for distribution to field stations.....	15,476.21

INTERNATIONAL HEALTH DIVISION

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1913-1930, Inclusive, Covering All Activities—Continued

1927	1928	1929	1930	Total
\$.....	\$.....	\$.....	\$.....	\$515.93
.....	38,995.22
.....	40,127.82
.....	28,309.39
.....	28,309.39
.....	6,009.79
.....	515.04
.....	222.93
.....	930.14
.....	1,671.82
.....	322.42
.....	525.52
.....	388.09
.....	1,007.92
.....	425.91
.....	2,982.17
.....	2,982.17
.....	1,984.82
.....	1,984.82
.....	841.65
31.41	64.11	841.65
.....	35,062.72
.....	7,552.87
31.41	64.11	4,641.14
.....	15,476.21

Table of Expenditures for Public Health Work for the Years

ACTIVITY, COUNTRY, AND STATE	July 1, 1913- Dec. 31, 1923	1924	1925	1926
GENERAL BUDGET (Cont.)				
Control of Specific Diseases; Investigations (Cont.)				
Hookworm (Cont.)				
Miscellaneous (Cont.)				
Salvador				
Portable house and office..	\$6,623.04	\$.....	\$.....	\$.....
Loss from earthquake.	406.46
Dutch Guiana				
Care and stor- age of motor boat.....	363.00
Malaria.....	466,412.47	133,102.29	144,034.49	177,801.93
Control.....	363,846.60	96,238.97	85,700.41	136,299.27
United States...	354,806.56	76,351.81	63,186.47	58,314.44
Alabama....	21,767.87	5,936.26	5,239.56	6,306.38
Arkansas....	27,518.91	4,263.40	1,954.16
Florida....	1,125.00
Georgia....	5,897.93	5,298.38	3,634.40	2,841.52
Illinois....	1,429.64	827.68	3,214.92
Louisiana....	42,148.45	4,745.81	4,643.77	4,383.12
Mississippi...	152,978.33	7,539.29	10,639.39	12,983.13
Missouri....	6,913.58	3,000.00	1,911.67	1,367.75
North Caro- lina.....	22,641.80	15,644.96	7,401.41	4,404.42
South Caro- lina.....	41,100.30	7,196.81	9,035.86	9,700.00
Tennessee...	4,988.24	5,516.22	4,541.63	5,978.95
Texas.....	10,000.16	5,007.00	1,151.09
Virginia....	17,421.35	10,251.00	9,818.61	10,349.17
South America...	3,251.52	18,803.78	22,394.36	31,240.30
Argentina....	3,907.01	18,633.65
Brazil.....	18,863.78	18,487.35	12,606.71
Ecuador....	3,251.52
Venezuela....
Europe.....	46,267.83
Bulgaria....	46,267.83
Italy....	46,267.83
Spain....
Central America	5,788.52	1,023.38	119.58
Costa Rica...	5,788.52	1,023.38	119.58
Nicaragua...	5,788.52	1,023.38	119.58

* Reports incomplete.

1913-1930, Inclusive, Covering All Activities—Continued

1927	1928	1929	1930	Total
\$.....	\$.....	\$.....	\$.....	\$6,623.04
.....	406.46
201,343.68	188,553.09	190,511.93	146,256.95	363.00
157,255.10	157,333.32	154,947.07	116,903.94	1,648,016.83
55,596.92	34,534.83	28,988.30	10,557.58	1,268,524.68
7,540.95	682,336.91
.....	46,791.02
2,755.04	5,443.28	6,675.00	3,500.00	33,736.47
.....	1,125.00
3,642.04	2,860.36	1,468.40	1,585.32	36,045.55
12,749.59	12,232.64	11,748.88	3,472.26	5,472.24
.....	65,477.27
*4,555.60	224,343.51
10,800.00	5,800.00	4,200.00	13,193.00
4,108.34	1,500.00	54,648.19
.....	87,832.97
9,445.36	6,698.55	4,896.02	2,000.00	26,633.38
28,041.28	21,766.31	12,222.50	61.95	16,158.25
18,978.73	11,040.37	6,933.88	70,880.06
9,062.55	10,026.58	4,825.81	137,842.06
.....	59,493.64
73,127.74	98,303.98	108,488.75	97,131.46	73,872.78
.....	7,239.57	8,515.39	15,507.50	3,251.52
73,127.74	84,691.03	94,311.75	79,130.20	1,224.12
.....	6,373.38	5,661.61	2,493.76	423,319.76
.....	1,500.00	31,262.46
.....	1,500.00	377,528.55
.....	1,500.00	14,528.75
.....	1,500.00	8,431.48
.....	1,500.00	1,500.00
.....	6,931.48

Table of Expenditures for Public Health Work for the Years

ACTIVITY, COUNTRY, AND STATE	July 1, 1913- Dec. 31, 1923	1924	1925	1926
GENERAL BUDGET (Cont.)				
Control of Specific Diseases; Investigations (Cont.)				
Malaria (Cont.)				
Control (Cont.)				
West Indies.....	\$.....	\$.....	\$.....	\$476.64
Grenada.....
Jamaica.....
Porto Rico.....	476.64
Surveys and Investigations.....	94,368.23	31,806.11	55,690.24	40,209.06
United States.....	9,491.97	16,870.58	13,473.26	21,082.16
Alabama.....
Georgia.....	5,654.15	10,714.49	9,662.91
Louisiana.....	205.17
Maryland.....	1,495.31	1,432.43
Mississippi.....	156.34	2,719.10
North Carolina.....	1,028.43	15,116.94
Studies at Johns Hopkins School of Hygiene and Public Health.....	952.57	2,004.56	3,037.54	4,240.22
Studies at University of Chicago.....	772.81	1,725.00
West Indies.....	40,965.67	2,066.67	11,411.56
Porto Rico.....	40,965.67	2,066.67	11,411.56
Grenada Anopheline survey
South America.....	38,287.48
Argentina.....	1,965.39
Brazil.....	36,322.09
Colombia Anopheline survey
Europe.....	93.42	5,711.59	25,386.14	12,531.40
Austria.....	2,102.00	2,381.99
France, Corsica.....	3,363.52	5,280.38
Greece.....
Italy.....	93.42	3,609.59	19,640.63
Netherlands.....
Spain.....	7,251.02
Yugoslavia.....

* Reports incomplete.

1913-1930, Inclusive, Covering All Activities—Continued

1927	1928	1929	1930	Total
\$489.16	\$2,728.20	\$5,247.52	\$7,652.95	\$16,594.47
.....	211.00	211.00
.....	1,745.81	837.65	937.22	3,520.68
489.16	982.39	4,409.87	6,504.73	12,862.79
44,088.58	31,219.77	35,564.86	29,353.01	362,299.86
21,958.60	13,925.58	5,764.65	2,948.34	105,515.14
214.31	378.52	592.83
.....	26,031.55
.....	205.17
.....	2,927.74
.....	2,875.44
15,185.86	8,626.57	1,891.67	41,849.47
4,061.55	3,670.49	2,623.39	950.00	21,540.32
2,496.88	1,250.00	1,249.59	1,998.34	9,492.62
.....	3,078.67	57,522.57
.....	54,443.90
2,522.90	3,078.67	3,078.67
.....	2,949.38	43,759.76
.....	1,965.39
.....	36,322.09
2,522.90	2,949.38	2,949.38
16,208.94	12,241.93	12,664.52	17,812.08	102,650.02
.....	4,483.99
5,267.94	5,374.70	5,594.28	*8.92	24,889.74
.....	9,933.28	9,933.28
5,092.20	6,867.23	4,912.43	6,032.53	23,343.64
5,848.80	2,157.81	1,837.35	22,904.39
.....	13,099.82
.....	3,995.16

Table of Expenditures for Public Health Work for the Years

ACTIVITY, COUNTRY, AND STATE	July 1, 1913- Dec. 31, 1923	1924	1925	1926
GENERAL BUDGET (Cont.)				
Control of Specific Diseases; Investigations (Cont.)				
Malaria (Cont.)				
Surveys and Investigations (Cont.)				
The East.....	\$5,529.69	\$7,157.27	\$5,419.28	\$6,595.50
India.....	1,227.16	1,466.99	242.74
Palestine.....	4,302.53	5,690.28	5,176.54	6,595.50
Philippine Islands.....	8,197.64	5,057.21	2,643.84	1,293.60
Miscellaneous.....				
Conference of malaria workers.....	2,431.33
Motion picture film.....	5,766.31	4,756.46
Entomological studies in the field.....	300.75	2,643.84	1,293.60
Yellow Fever.....	899,431.35	545,636.76	450,045.08	474,302.21
Control.....	717,458.41	529,292.46	364,153.49	404,335.58
Brazil.....	89,776.74	460,625.80	331,524.12	404,185.55
Colombia and Venezuela*.....	28,483.32	44,911.07	335.98
Countries bordering on Caribbean littoral and Amazon Valley.....	10,797.49	4,123.33
Ecuador.....	91,646.65
Mexico and Central America.....	380,406.80	19,632.26	32,293.39	150.03
Peru.....	116,347.41
Investigations and Surveys.....	175,259.30	11,000.00	81,950.26	67,716.63
West Africa.....	3,000.00	66,693.50	57,700.76
Yellow fever commissions.....	153,598.20
Vaccine and serum.....	9,786.06	6,000.00	6,000.00	5,867.94
Research and training.....	8,875.04	5,000.00	9,256.76	4,147.93
Laboratory at Bahia, Brazil.....
Surveys.....

* The cost of work in Venezuela includes only the expenses of the Survey Commission.

INTERNATIONAL HEALTH DIVISION

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1913-1930, Inclusive, Covering All Activities—Continued

1927	1928	1929	1930	Total
\$3,398.14	\$5,052.26	\$11,107.64	\$8,592.59	\$52,852.37
.....	452.38	5,009.90	1,401.50	6,863.78
638.30	400.16	3,975.35
2,759.84	4,199.72	6,097.74	7,191.09	42,013.24
.....	17,192.29
.....	2,431.33
.....	10,522.77
.....	4,238.19
326,085.60	266,783.21	314,288.37	366,737.88	3,643,310.46
153,397.74	84,692.28	131,752.26	179,904.18	2,564,986.40
153,397.74	84,692.28	131,752.26	179,904.18	1,835,858.67
.....	73,730.37
.....	14,920.82
.....	91,646.65
.....	432,482.48
.....	116,347.41
170,361.26	180,085.93	180,595.49	186,521.33	1,053,490.20
160,746.72	151,268.55	108,968.04	106,409.41	654,786.98
.....	153,598.20
5,142.89	2,141.08	34,937.97
4,471.65	14,892.76	24,321.68	32,498.35	103,464.17
.....	11,783.54	47,305.77	47,612.31	106,701.62
.....	1.26	1.26

Table of Expenditures for Public Health Work for the Years

ACTIVITY, COUNTRY, AND STATE	July 1, 1913- Dec. 31, 1923	1924	1925	1926
GENERAL BUDGET (Cont.)				
Control of Specific Diseases; Investigations (Cont.)				
Yellow Fever (Cont.)				
Miscellaneous....	\$6,713.64	\$5,344.30	\$3,941.33	\$2,250.00
History of yellow fever....	6,713.64	5,344.30	3,941.33	2,250.00
Respiratory Diseases
Verruga Peruana...
Tuberculosis.....	2,310,983.83	67,093.60	11,647.61
France.....	2,310,983.83	67,093.60	11,647.61
Inauguration of work.....	18,671.74
Departmental organization..	210,690.31
Public health visiting.....	331,948.93	37,371.65
Educational division.....	510,308.01
Medical division.....	786,989.01
Contingent fund.....	8,007.64	4,420.94
Postgraduate tuberculosis courses.....	5,044.15
National committee.....	22,515.73	10,472.28	11,647.61
Central administration.....	416,808.31	14,828.73
Jamaica.....
Study clinic.....
Survey.....
United States.....
Henry Phipps Institute.....
Epidemiological Studies.....
Maryland.....
Tennessee.....
Virginia.....
Sanitation.....
Field studies of bored-hole latrine.....
Undulant Fever France.....

* Reports incomplete.

1913-1930, Inclusive, Covering All Activities—Continued

1927	1928	1929	1930	Total
\$2,326.60	\$2,005.00	\$1,940.62	\$312.37	\$24,833.86
2,326.60	2,005.00	1,940.62	312.37	24,833.86
1,042.21	2,680.32	4,442.37	6,528.52	14,693.42
.....	1,295.82	1,295.82
.....	4,100.97	5,786.58	31,103.27	2,430,715.86
.....	2,389,725.04
.....	18,671.74
.....	210,690.31
.....	369,320.58
.....	510,308.01
.....	786,989.01
.....	12,428.58
.....	5,044.15
.....	44,635.62
.....	4,100.97	5,786.58	11,103.27	431,637.04
.....	4,100.97	5,663.81	11,103.27	20,990.82
.....	122.77	20,868.05
.....	122.77
.....	20,000.00	20,000.00
.....	20,000.00	20,000.00
.....	6,739.87	6,739.87
.....	* 3,823.39	3,823.39
.....	2,916.48	2,916.48
.....	405.01	1,466.61	773.24	2,644.86
.....	405.01	1,466.61	773.24	2,644.86
.....	5,191.17	5,191.17
.....	5,191.17	5,191.17

Table of Expenditures for Public Health Work for the Years

ACTIVITY, COUNTRY, AND STATE	July 1, 1913- Dec. 31, 1923	1924	1925	1926
GENERAL BUDGET (Cont.)				
Control of Specific Diseases; Investigations (Cont.)				
Public Health Surveys	\$.....	\$.....	\$.....	\$.....
Travancore, India.				
Field Service	2,745,112.45	608,089.68	610,919.99	666,773.33
Salaries.....	1,763,050.17	375,984.87	371,709.96	410,494.23
Commutation.....	174,962.37	45,786.22	48,060.05	44,316.83
Travel.....	574,577.57	128,067.58	132,911.14	150,000.00
Medical examination	2,003.60	400.00	992.00	634.60
Insurance and retirement.....	213,643.25	39,607.14	38,550.62	38,647.74
Bonding.....	10,329.76	5,859.10	4,983.11	4,382.63
Automobiles.....	4,388.13	1,746.83	930.14	2,379.59
Drugs for conserving health of field staff	373.45	69.89	38.63	32.20
Training of staff members.....	*1,484.45	12,744.34	15,885.51
Brazil. Central office	10,568.05
The East. Office of the director.....	299.70
Miscellaneous	175,937.82	8,117.35	7,878.20	10,769.61
Field equipment and supplies.....	52,499.41	6,949.08	6,689.78	5,302.81
Pamphlets and charts	39,653.59	1,399.13	2,884.85	6,290.94
Express, freight, and exchange.....	Cr. 131,118.88	Cr. 1,221.68	Cr. 1,736.43	Cr. 923.26
Hookworm and malaria films donated or lent.....	990.82	40.00	99.12
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

* Expenditures in subsequent years charged to Fellowships.

INTERNATIONAL HEALTH DIVISION

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1913-1930, Inclusive, Covering All Activities—Continued

1927	1928	1929	1930	Total
\$.....	\$.....	\$313.10	\$230.36	\$543.46
		313.10	230.36	543.46
678,066.41	712,918.89	705,208.08	704,916.65	7,432,005.48
409,170.41	438,117.88	441,997.31	454,420.53	4,664,945.36
46,028.06	49,113.13	44,782.55	42,042.98	495,092.19
159,993.69	159,004.67	154,593.72	152,542.82	1,611,691.19
718.00	400.00	527.00	514.25	6,189.45
42,851.84	48,316.82	49,919.86	46,524.09	518,061.36
3,541.03	2,873.75	2,763.03	2,955.14	37,687.55
1,333.60	Cr. 572.35	10,205.94
23.18	1.22	54.76	593.33
14,406.60	15,663.77	10,569.85	5,916.84	1,484.45 85,754.96
.....	299.70
16,988.76	19,279.89	12,031.36	13,572.85	264,575.84
13,486.60	14,694.95	6,802.02	5,378.02	111,802.67
1,549.04	4,072.07	4,699.43	7,330.68	67,879.73
1,523.22	575.44	455.58	864.15	Cr. 131,581.86
429.90	Cr. 62.57	74.33	1,571.60 129,006.46 1,844.12
.....	1,278.60
.....	615.30
.....	203.18
.....	165.62

Table of Expenditures for Public Health Work for the Years

ACTIVITY, COUNTRY, AND STATE	July 1, 1913- Dec. 31, 1923	1924	1925	1926
GENERAL BUDGET (Cont.)				
Miscellaneous (Cont.)				
Plans for laboratory at Nictheroy, Brazil.	\$ 429.98	\$.....	\$.....	\$.....
Adviser in medical education.....	8,535.46
Investigation of sewage disposal in rural homes.....	10,311.51
Philippine Hospital Ship.....	44,000.00
Medical Commission to Brazil.....	18,513.47
BUILDINGS, EQUIPMENT, AND ENDOWMENT				
Schools and Institutes of Hygiene and Public Health.....	9,295,756.34	637,110.81	1,099,931.20	1,263,839.32
Brazil.....	3,595.40	46,900.00
Bahia.....	3,595.40
São Paulo.....	46,900.00
Canada, Toronto....	262,500.00	162,500.00
Czechoslovakia, Prague.....	8,585.76	9,610.81	202,886.77	160,475.99
Denmark, Copenhagen.....	198,833.61
England, London....	231,798.53	233,201.67	689,628.33
Hungary, Budapest.....	40,000.00
Norway, Oslo.....	86,050.00
Poland, Warsaw....	90,000.00	202,500.00
Trinidad, St. Augustine.....	4,851.25	4,885.00
Turkey, Angora.....	8,965,372.05	425,000.00	31,250.00	25,000.00
United States.....
Harvard University*.....	1,869,284.25	425,000.00	31,250.00	25,000.00
Johns Hopkins University*.....	7,096,087.80	122,812.50	88,400.00
Yugoslavia.....	33,950.00
Belgrade.....	88,862.50	88,400.00
Zagreb.....	30,210.85
Schools of Nursing.....	30,210.85
D. Anna Nery School of Nursing, Brazil.....	30,210.85

* Appropriations to cover these payments were made direct by the Rockefeller Foundation, with the International Health Board.

1913-1930, Inclusive, Covering All Activities—Continued

1927	1928	1929	1930	Total
\$.....	\$.....	\$.....	\$.....	\$429.98
.....	8,535.46
.....	10,311.51
.....	44,000.00
.....	18,513.47
1,414,262.06	734,515.45	1,027,112.61	112,024.29	15,584,552.08
23,987.00	117,264.88	191,747.28
23,987.00	117,264.88	3,595.40
12,500.00	250,000.00	188,151.88
95,054.50	189,212.08	31,192.90	107,024.29	687,500.00
969,783.48	804,043.10
60,297.54	43,648.49	1,047.71	198,833.61
100,626.54	2,124,412.01
.....	144,993.74
4,872.00	4,890.00	4,872.00	5,000.00	186,676.54
137,250.00	80,000.00	49,500.00	292,500.00
137,250.00	49,500.00	990,000.00	29,370.25
.....	80,000.00
9,891.00	10,623,372.05
9,891.00	3,527,284.25
99,483.51	7,096,087.80
9,891.00	221,103.50
99,483.51	33,950.00
99,483.51	187,153.50
99,483.51	129,694.36
99,483.51	129,694.36

exception of the payment during the year 1926, which was made under appropriation of the Interna-

THE MEDICAL SCIENCES

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THE MEDICAL SCIENCES

On February 16, 1930, the Rockefeller Foundation suffered an irreparable loss in the death of Dr. Richard M. Pearce. As Director for the Medical Sciences he had planned and supervised the work of the Foundation in medical education and research for the preceding decade.

At this time, those who were Dr. Pearce's colleagues wish to record, with gratitude, the pride and satisfaction which it has given them to have been associated with him in this work.

Medical Sciences

Visits and Surveys

During 1930 visits were made by members of the staff for the medical sciences, in connection with projects already undertaken in the following thirteen countries: Austria, Canada, Denmark, England, France, Germany, Italy, the Netherlands, Norway, Scotland, Sweden, Switzerland, and the United States. In addition a survey was made of medical education in Greece.

International Exchange of Information

Visits of Teachers and Administrators.—As in previous years, several prominent teachers and

investigators in the field of medicine were invited by the Foundation to visit medical institutions in countries other than their own. Director General J. W. D. Megaw of the Indian Medical Service, who is especially interested in the All-India School of Hygiene and Public Health, with which the Foundation was cooperating, was invited while on furlough to study public health activities and institutes in Europe. Dr. Robin Fahraeus, director of the Institute of Pathology, University of Uppsala, Sweden, visited institutes of general and experimental pathology in Canada and the United States; and Dr. Wilhelm Bosaeus of the same institute, visited institutions in Austria, Germany, and the Netherlands. Dr. W. D. O'Kelly, professor of public health and bacteriology, University College, Dublin, Irish Free State, studied public health laboratory organization and teaching methods in hygiene and bacteriology in the United States. Dr. Enrique Hug, professor of pharmacology at Rosario, Argentina, visited departments of pharmacology in the United States. From the University of Birmingham, England, where new buildings for the medical school and hospital are being planned, came a commission of three members: Dr. J. C. Brash, dean of the medical sciences and professor of anatomy; Dr. I. de Burgh Daly, professor of physiology; and Dr. G. Haswell

Wilson, professor of pathology. This commission studied planning and organization of medical schools in Canada and the United States.

In Europe, Dr. Paul B. Rehberg of the Institute of Zoophysiology, University of Copenhagen, Denmark, visited Russia; Dr. E. A. R. F. Baudet of the department of veterinary parasitology, University of Utrecht, the Netherlands, visited France; Dr. Francis Kiss, director of the Institute of Anatomy and Histology, University of Szeged, Hungary, visited France and England; Dr. Gregor T. Popa, professor of anatomy, University of Jassy, Rumania, visited England; and Dr. Tullio Terni, director of the Institute of Histology and Embryology, University of Padova, Italy, visited Germany.

Publications.—During 1930, Series 16, 17, and 18 of "Methods and Problems of Medical Education" were published, and a volume was issued on "Anatomy and Related Subjects," made up of reprints from series preceding the sixteenth.

Series 16 and 17 are devoted to articles on anatomy and related subjects in fifty-one institutes, departments, or hospitals of twenty-nine countries. Series 18 is a general volume containing articles on medical school and hospital departments in twenty-four institutions in thirteen countries. The tables of contents of the

four volumes will be found in the appendix, page 179.

Fellowships

Fellowships in the medical sciences are granted for supplementary training of young graduate physicians in preparation for definite positions in research or teaching to which they agree to return on completion of their studies; therefore it is through the authorities of the institutions to which the fellows are to return, and which will benefit by their training, that the applications for fellowships are made. Of the fellowships in medicine supported by the Foundation in 1930, 102 were administered by it directly. Eleven of the 102 fellows came from Haiti and eleven from Siam; seven were from Japan; six from Russia; five from Italy; four each from Australia, Austria, Hungary, India, Switzerland, and Syria; three each from Belgium, China, and New Zealand; two each from Argentina, Canada, Czechoslovakia, England, France, the Philippine Islands, Poland, and Yugoslavia; and one each from Brazil, Denmark, Germany, Iceland, Mexico, the Netherlands, Norway, Porto Rico, Rumania, Scotland, South Africa, Sweden, and the United States.

Twenty of the fellows studied anatomy, seventeen physiology, twelve surgery and surgi-

cal specialties, eleven biochemistry, ten internal medicine, seven bacteriology and immunology, six each pathology, parasitology, and hygiene and public health, five each bacteriology and pharmacology, four each roentgenology and radiology, and neurology, three each physics, chemistry, obstetrics and gynecology, and pediatrics, two each biology and genetics, and one each biophysics, tissue culture, and the history of medicine. It should be noted that this distribution among subjects is due in part to the necessities imposed by the training of teachers for medical schools still in the process of organization. The studies were carried on in Austria, Belgium, Canada, Ceylon, Denmark, England, France, Germany, India, Irish Free State, Italy, Porto Rico, Scotland, Sweden, Switzerland, and the United States.

In addition, the Foundation 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 1930 twelve persons held fellowships under the British Medical Research Council for work in Germany or the United States, four studied medicine, two each psychiatry and surgery, and one each bio-

chemistry, diseases of the blood, metabolic diseases, neurology, neuropathology, pediatrics, and physiology. Under the Notgemeinschaft der Deutschen Wissenschaft, thirteen persons held fellowships for study in Egypt, England, the Netherlands, Switzerland, or the United States; three of these studied physiology, two each pathology, pharmacology, and surgery, and one each anatomy, biology, cancer, chemotherapy, neurology, radiology, and tissue culture. Under the Hungarian Scholarship Council, three fellowships were held for study in the United States, one each in bacteriology, gynecology, and surgery.

Thirty-nine fellowships in medicine, administered by the National Research Council of the United States, were supported by the Foundation. Most of these fellowships were granted for work in the United States, but seventeen fellows worked abroad, in Canada, Egypt, England, France, Germany, Italy, and the Netherlands. Nine fellows studied physiology, seven internal medicine, six biochemistry, four bacteriology and immunology, three each neurology and psychiatry, pathology, and surgery, two parasitology, and one each anatomy, obstetrics and pediatrics, and roentgenology.

Funds were granted also to the National Committee for Mental Hygiene of the United States, for support of seven fellows in psychiatry

and clinical psychology, and to the Peiping Union Medical College for 127 fellowships and nine scholarships for study in that college, and twenty-four fellowships for members of the staff of the college for study outside of China.

Medical Literature

The provision of medical literature in European countries, begun as a measure of post-war relief, is now being gradually discontinued. During 1930 such aid was given to one medical school in France, five in Italy, one in Portugal, and to medical institutes in twenty-five cities of Russia.

Research Aid

Institute of Experimental Biology, Copenhagen, Denmark.—The Carlsberg Foundation of Denmark, which devotes its resources to cultural and scientific development in Denmark, has undertaken to establish an institute of experimental biology in Copenhagen under the directorship of Dr. Albert Fischer. The Rockefeller Foundation has agreed to assist in this enterprise by providing part of the endowment for the maintenance of research in cellular physiology. The Carlsberg Foundation is to erect a building for the institute on a site adjoining the Medical Faculty of the University of Copenhagen.

Kaiser Wilhelm Gesellschaft, Institute of Cell Physiology, Berlin-Dahlem, Germany.—A grant was made to the Kaiser Wilhelm Gesellschaft for the purchase of land and the erection of a new building for its Institute of Cell Physiology. The work of this division of the Kaiser Wilhelm Institute of Biology has been carried out, under the direction of Professor Otto Warburg, in temporary quarters, which have become inadequate for the investigations under way. These investigations are concerned with the essential physiological phenomena, such as enzymatic oxidation and metabolism, which characterize all forms of life. They are directed toward gaining an understanding of the physics and chemistry which underlie all vital phenomena and in the light of which the behavior of special forms, e.g., cancer cells, is sought. The Institute of Cell Physiology is one of a number of research institutes which the Gesellschaft is grouping at Dahlem.

Cornell University Medical College, New York City.—After five years' support by the General Education Board of research by Dr. C. R. Stockard, professor of anatomy at the Cornell University Medical College, on the rôle of the glands of internal secretion in relation to growth and inheritance, it was found that continuance of the work for an additional ten years would be



Photograph Excised Here

New building of the Kaiser Wilhelm Institute for Brain Research,
Berlin-Buch, Germany, erected with the assistance of the Rockefeller
Foundation.



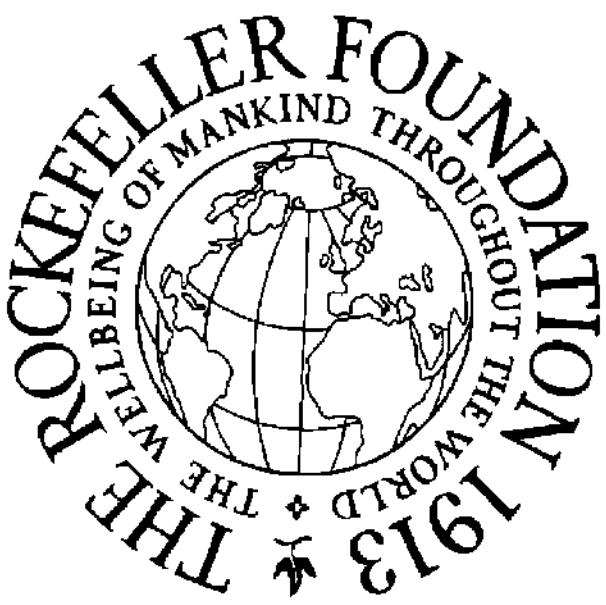
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Present quarters of the Kaiser Wilhelm Institute of Cell Physiology,
Berlin-Dahlem. The Foundation is contributing funds toward the
purchase of land and the erection of a new building for the institute.

necessary for satisfactory completion of the investigation. For this purpose the Foundation appropriated funds for use during the ten-year period beginning July 1, 1930.

Harvard University Medical School, Boston, Massachusetts.—An appropriation was made to the Harvard University Medical School for the support over a seven-year period beginning July 1, 1930, of researches in physiology and in physical chemistry, under the leadership of Professor Walter B. Cannon. This aid will not only make possible the unhampered continuance of the investigations which have been undertaken by Dr. Cannon and his associates, but will help to provide opportunity for training more men in physiological research.

Columbia University, New York City.—At the School of Tropical Medicine, San Juan, Porto Rico, which is supported jointly by Columbia University and the University of Porto Rico, preliminary studies of nutrition in the tropics have been carried on in conjunction with the Department of Chemistry of Columbia University. In view of the importance of this subject and the general lack of knowledge regarding it, Columbia University proposed to broaden the scope of the research by the inclusion of field investigations and to extend the laboratory studies. In support of this program,



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New buildings of the Faculty of Medicine of the University of Lyon, France, completed during 1930. Funds toward the cost of the land and the construction of the buildings were provided by the Foundation.

particularly the laboratory studies, the Foundation in 1930 appropriated funds on a diminishing scale for a four-year period.

Trudeau Foundation, Trudeau, New York.—In the research laboratory of the Trudeau Foundation, Dr. S. A. Petroff has been carrying on important investigations on tuberculosis, including experimentation with various vaccines in the hope of finding one which would be effective for prophylactic immunization against this disease. To provide for continuance of this work the Rockefeller Foundation appropriated funds for aid over a five-year period.

University of Rochester School of Medicine and Dentistry, Rochester, New York.—Various departments of the School of Medicine and Dentistry of the University of Rochester are collaborating, with the counsel of the university department of physics, in studies of the effects, in health and disease, of heat produced by high frequency currents. To supplement the funds available for these studies the Foundation has made a grant of \$15,000 to the university.

Fluid Research Funds.—A grant was made to the medical school of Stanford University, San Francisco, California, for the establishment of a fluid research fund for use over a period of six years beginning with the academic year 1930-1931. A grant was also made to Washington

University, St. Louis, Missouri, for the establishment of a similar fund for the use of the medical and natural sciences departments over a seven-year period ending July 1, 1937.

It is the hope of the Foundation, in establishing for a limited period these general research funds to be allocated by the authorities of the respective institutions, that the value of such funds may be so demonstrated as to make possible the continuance from other sources of maintenance for investigative work.

Minor Grants for Research.--Small grants for aid of research were made to two medical departments in China, two in Denmark, three in England, six in France, six in Germany, two in Italy, and one each in the Netherlands, Poland, and Yugoslavia, as follows:

China

Mukden Medical College, Manchuria
Department of Pharmacology Mr. K. Y. Yu
Shantung Christian University,
Tsinan
Department of Medicine Dr. H. J. Smyly

Denmark

University of Copenhagen
Institute of General Pathology Professor Oluf Thomsen
Institute of Zoophysiology Dr. Paul B. Rehberg

England

University of Oxford
Physiological Laboratory Sir Charles Sherrington
St. Bartholomew's Hospital Medical
School, London
For work in pediatrics Dr. Charles F. Harris
London Hospital Medical School
For work in neurosurgery Dr. Hugh Cairns

France

University of Strasbourg	
Department of Experimental Surgery	Dr. A. G. Weiss
University of Paris	
Heart Clinic, Hôpital de la Pitié	Professor Henri Vaquez
Medical Clinic, Hôpital de la Pitié	Professor Marcel Labb�
Medical Clinic, H�pital de la Charit�	Professor Pierre Abrami
Tuberculosis Clinic, H�pital Laennec	Professor L�on Bernard
Pasteur Institute, Paris	M. Lecomte du Nouy

Germany

University of Berlin	
Medical Clinic	Dr. Walter Jaensch
University of Breslau	
Neurological Clinic	Professor Ottfried Foerster
University of D�sseldorf	
Ear, Nose, and Throat Clinic	Dr. Heinz Dahmann
University of Freiburg im Breisgau	
Institute of Pathological Anatomy	Professor Ludwig Aschoff
Institute of Hygiene	Professor Paul Uhlenhuth
University of Kiel	
Gynecological Clinic	Professor Robert Schroeder

Italy

University of Padova	
Institute of Histology	Professor Tullio Terni
University of Sassari	
Institute of Zoology and Compara- tive Anatomy	Professor Carlo Jucci

Netherlands

University of Leiden	
Institute of Pharmacology and Therapeutics	Professor W. Storm van Leeuwen

Poland

University of Cracow	
Institute of General and Experi- mental Pathology	Dr. Kazimierz Pelczar

Yugoslavia

University of Zagreb	
Biological Institute	Professor Boris Zarnik

National Research Council Grants.—From funds supplied by the Foundation, the National Research Council made small grants in aid of research in medicine in the following universities: Buffalo, California, Cornell, Illinois, Kansas, Minnesota, Missouri, North Carolina, Pennsylvania, St. Louis, Southern California, Stanford, Syracuse, Vanderbilt, Virginia, Washington (St. Louis), Western Reserve, and Yale.

Continuation of Research Aid Begun in Previous Years.—Aid for specific long-term research projects, begun in previous years, was continued as follows: to the University of Rochester School of Medicine and Dentistry and to the Yale School of Medicine, for research in dental pathology; to Yale University for the development of psychiatry in its Institute of Human Relations; to the University of Rochester 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; to the University of Toronto for research in its department of pediatrics; to McGill University for the development of research in surgery; to the University of California for the research of Dr. Herbert M. Evans in the chemical aspects of vitamines and hormones; to Columbia University for research in medical mycology by Dr. J. Gardner Hopkins

and his associates; to the Johns Hopkins University for a study of obstetrical records which is being carried out under the direction of Dr. J. Whitridge Williams in the hope of discovering the causes of the high maternal mortality rate in the United States; and to the University of Pennsylvania for the researches of Dr. Eliot R. Clark in connection with his new method of studying living tissues.

Laboratory Supplies.—A few former Foundation fellows and other selected individuals were given aid in the form of laboratory supplies to enable them to continue certain important investigations. Two of these persons were in Austria, two in Brazil, two in China, one in France, one in England, two in Germany, one in Hungary, two in Russia, and two in Sweden.

Aid to Teaching Institutions

In the past the Rockefeller Foundation has contributed toward the construction projects of teaching institutions, but this program is now drawing to a close. Aid to undertakings of this nature already under way was continued during the year 1930.

University of Sydney, Australia.—The University of Sydney has recently received from private sources gifts for the establishment in its

medical school of full-time chairs of histology and embryology, bacteriology, medicine, and surgery. It has also received funds for research. A new medical building has been planned, and in order to develop the clinical facilities to the level of the reorganized school, a new clinical laboratory is essential. The Foundation made an appropriation to enable the university to build and equip this laboratory.

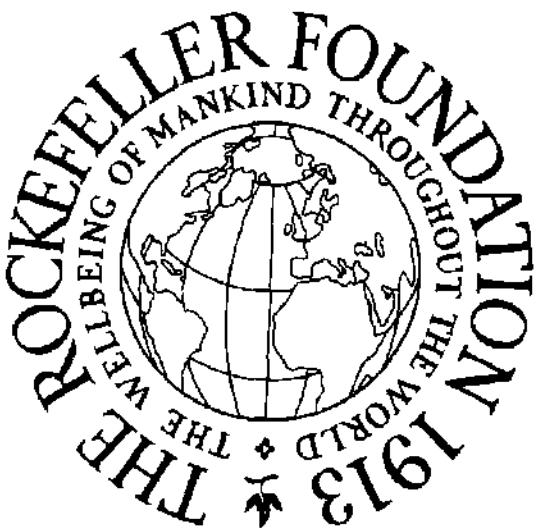
Chulalongkorn University, Bangkok, Siam.—The Foundation has for some years been assisting the Siamese Government in developing the Medical School of Chulalongkorn University. In 1930 a contribution was made to enable the government to complete the building program for the school by enlarging the pathology building and providing a building for the School of Midwifery and Nursing. The government will erect buildings for Siriraj Hospital, the teaching hospital of the school. Aid was continued in the form of supplementary salaries, travel expenses, additional scientific equipment, and medical literature for foreign professors of medicine, surgery, and biology until the end of their terms in 1930, and for foreign professors of anatomy, physiology, obstetrics, chemistry, and physics. Contribution was also made to the medical school library. Fellowships were continued for the training of Siamese to succeed the

foreign professors at the expiration of their contracts with the government.

University of the Philippines, Manila.—The Graduate School of Hygiene and Public Health of the College of Medicine of the University of the Philippines was established in 1927, and funds were provided by the Foundation for the salary and travel expenses of two visiting professors in parasitology and bacteriology for the two-year period 1929–1931. The school soon outgrew the quarters allotted to it, and in 1930 the Foundation agreed to contribute toward the cost of enlarging the building, the university providing land and equipment and assuring maintenance of the school at its present level.

University of Paris, France.—In view of the importance of the work of the department of parasitology of the University of Paris, under Professor Emile Brumpt, and because of its bearing on other work in connection with parasitic and tropical diseases in which the Foundation is interested, a grant was made toward the support of the department for five years beginning July 1, 1930.

Aid to Other Teaching Institutions.—New buildings for the Medical Faculty of the University of Lyon, France, were completed during 1930, and payments were made by the Foundation on its appropriation toward the cost of land



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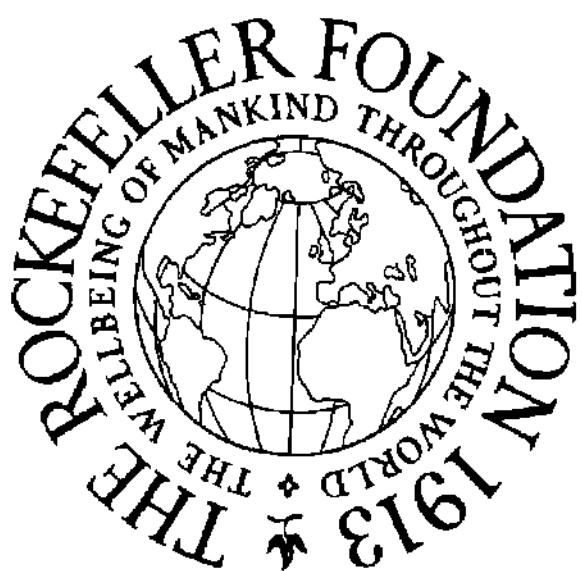
Airplane view of the Medical School of Chulalongkorn University and Siriraj Hospital, Bangkok, Siam.

- | | |
|------------------------------------|---------------------------------------|
| 1. Administration Building | 6. Medical Building |
| 2. Anatomy and Physiology Building | 7. Obstetrics and Gynecology Building |
| 3. Pathology Building | 8. Obstetrics Building |
| 4. Surgery and X-Ray Building | 9. Children's Ward |
| 5. Mr. & Mrs. Suriwud Building | 10. Nurses' Home |
| 11. Dormitory for Medical Students | |

and construction. Assistance to the Albany Medical College, Albany, New York, for its experiment in university extension teaching in medicine in cooperation with the New York State Department of Health, begun in 1929, was given for the second year of the five-year period for which aid was pledged. Aid was continued to the Faculty of Medicine of the French University of Montreal, Canada, for the development of its laboratories.

In China, aid to the Peiping Union Medical College was continued in 1930 in connection with the expenses of visiting professors. Payments on previous pledges were made to the College of Medicine of the National Central University, Woosung, Shanghai, for its general expenses, and to the Shantung Christian University School of Medicine, at Tsinan, for maintenance. Payments were completed on a two-year appropriation to the Shanghai Union Medical College for maintenance of its work.

Construction of a building for the All-India School of Hygiene and Public Health, in Calcutta, was well under way in 1930, and during the year the Foundation made payments on its pledges both toward land, buildings, and equipment, and for the salaries and expenses of a director and an assistant director during the initial period of development. Final payments



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Graduating class of the Peiping Union Medical College, 1930.



Photograph Excised Here

Institute of Preventive Medicine of Keio Gijuku University, Tokyo,
Japan, built and equipped with the aid of the Foundation.

were made to the medical school of the American University of Beirut, Syria, on previous pledges for maintenance and endowment of teaching, and for buildings and equipment; to the University of Edinburgh, Scotland, on a five-year pledge of aid to the chair of therapeutics for the development of clinical teaching; to the University of Zagreb, Yugoslavia, on an appropriation of 1927 for the equipment and maintenance of the department of hygiene; and to the National School of Medicine and Pharmacy, at Port au Prince, Haiti, for teaching equipment.

With the object of assisting in the recruiting and development of future teachers and investigators, aid was given during 1930 to certain medical school departments which are especially active in attracting and training younger men. These included eleven departments of seven schools in Italy, seven departments of three schools in France, five departments of two schools in the Irish Free State, and one department of one school in Northern Ireland.

Nursing Education

Visits and Surveys by Staff Members

Visits were made in 1930 by members of the nursing staff in countries of the Far East, the Near East, Europe, and North America as follows: China, Japan, the Philippine Islands,

Straits Settlements, Siam, and India; Egypt, Palestine, Syria, and Turkey; Austria, Bulgaria, Czechoslovakia, England, France, Germany, Greece, Hungary, Italy, Norway, Poland, and Yugoslavia; Canada and the United States.

Visits of Teachers and Administrators

As guests of the Foundation, fifteen nurse leaders visited nursing centers, in most cases in countries other than their own. Seven of these were from the United States, four from Hungary, and one from each of the following countries: Austria, Canada, France, and Yugoslavia.

Fellowships in Nursing

Foundation fellowships in nursing, awarded for the training of supervisors and administrators, chiefly in institutions with which the Foundation has been cooperating, were held by thirty-four fellows from eleven countries: five each from England, Rumania, and Siam, four each from Hungary and Yugoslavia, three each from China and the Philippine Islands, two from the United States, and one each from France, Poland, and Syria.

Aid to Schools of Nursing

The Czechoslovakian Government is developing a comprehensive public health program, with

a new school of hygiene and field demonstrations in various parts of the country. In connection with this program the Foundation agreed to aid in establishing a School of Nurses for Public Health and Social Welfare, in Prague, under the Ministry of Public Health and Physical Education, and to be attached to the State Institute of Public Hygiene as a department of the institute. Appropriation was made toward the building and equipment of the school, with contribution promised toward maintenance for the three years 1934 to 1936 inclusive.

To the School for Public Health and Bedside Nurses, Zagreb, Yugoslavia, which the Foundation had previously aided, an appropriation was made for the development of teaching facilities. Final payment was made to the State Central School of Nursing at Budapest, Hungary, toward building and equipment, and the first payment was made on an appropriation toward the maintenance of this school for a period of five years.

As previously noted (see page 165) the Foundation appropriated funds for a building for the School of Midwifery and Nursing of Chulalongkorn University (Siriraj Hospital), Bangkok, Siam. Aid in supplementary salaries and travel expenses for members of the teaching staff of this school was continued.

For the improvement of teaching services,



Photograph Excised Here

School for Public Health Nurses, Cluj, Rumania, to which the Foundation has contributed funds for the improvement of teaching facilities.



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Model of the proposed St. Luke's International Medical Center, Tokyo, Japan. The Foundation is contributing toward the maintenance of educational work in the St. Luke's College of Nursing over the five-year period 1927-31.

assistance was given to the following institutions: the Belgrade School of Nursing, Yugoslavia; the School of Public Health and Bedside Nursing at the University of Cracow, Poland; the State School of Nursing, Warsaw, Poland; St. Luke's College of Nursing, Tokyo, Japan; the Sleeper Davis Hospital School of Nursing, Peiping, China; the D. Ogden Mills Training School for Nurses, Trudeau Sanatorium, Saranac Lake, New York; the George Peabody College for Teachers and the Vanderbilt University School of Nursing, both in Nashville, Tennessee; and the Yale University School of Nursing, New Haven, Connecticut.

Committee on Grading of Nursing Schools

Aid was continued to the Committee on Grading of Nursing Schools for its study of the problems of nursing in the United States, in accordance with a pledge of assistance to this committee for the period 1927 to 1931 inclusive.

Transfer of Nursing Program to the International Health Division

Since the Foundation's program in nursing is being directed more and more toward the public health aspects of nursing education, this program will be administered by the International Health Division in 1931.



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Graduating class of the School of Nursing of the Peiping Union Medical College, 1930.



Photograph Excised Here

Class in bed-making, School of Public Health and Bedside Nursing, Cracow, Poland. The Foundation has given assistance toward building, equipping, and maintaining this school.

Miscellaneous Activities

Aid was continued to fourteen hospitals in China, to the National Medical Association of China toward current expenses, and to the China Medical Association toward current expenses, maintenance of standards of medical education, and publication of the China Medical Journal.

Final payments were made on pledges to the New York Academy of Medicine for endowment of its educational services; to the Association of American Medical Colleges for a study of the medical curriculum by its Commission on Medical Education; and to the United Hospital Fund for expenses in connection with transferring to permanent agencies activities formerly carried on by the Committee on Dispensary Development.

THE MEDICAL SCIENCES STAFF DURING 1930

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Mary Beard ‡

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Hazel A. Goff ‖
Mary E. Tennant ‡

* Died February 16, 1930.

† Appointed director January 1, 1931.

‡ Joined the staff of the International Health Division January 1, 1931.

|| Resigned during 1930.

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THE NATURAL SCIENCES

Aid to Established Institutions

Capital Grants

Research in the physical sciences has given us new senses by the aid of which it has been possible to gain a clearer understanding of the nature of matter and of energy. Among the most useful of these aids have been the newer methods for the determination of molecular structure. By means of these methods it has been possible to subject existing conceptions to rigorous experimental test and to develop fundamental ideas regarding the constitution of matter. These methods are rapidly finding wide application in the elucidation of the chemistry of both inorganic and organic compounds; they have already played an important rôle in the development of a number of industries and are certain to influence profoundly many aspects of the biological sciences. The pioneer investigations of von Laue led to the discovery that the examination of chemical compounds by means of x-rays reveals shadow patterns which indicate the arrangement of atoms within the molecules. This method of determining the invisible architecture of matter has opened a new and fertile field of research and through the efforts of several eminent

investigators has resulted in a closer correlation of many scientific disciplines. The Foundation has aided several centers of physical science through participation in enterprises for providing better research facilities in this general field of the structure and constitution of matter.

The Davy Faraday Research Laboratory, London, England.—An appropriation was made to the Royal Institution of Great Britain toward additional endowment of the Davy Faraday Research Laboratory. This laboratory, which has been in existence for 130 years, has been the source of much of the most important British scientific work. Sir William Bragg, the present director of the laboratory, together with his son and a group of associates, has made notable contributions to the subject of molecular structure and has under investigation a number of important related problems.

The Institute of Physics of the Kaiser Wilhelm Gesellschaft, Germany.—An appropriation was also made toward the development of the Institute of Physics of the Kaiser Wilhelm Gesellschaft. The latter institution has established and now supports a number of research institutes in Germany covering a wide range of intellectual endeavor. Several of the research institutes are located at Berlin-Dahlem, where the Institute of Physics is also to be established. Because of

the close association of these institutes and a number of the laboratories of the University of Berlin, unusually favorable opportunities exist for cooperative endeavor. The institute is devoted to theoretical and experimental physics, especially in the study of molecular rays and molecular magnetism. It is under the direction of Professors von Laue and Einstein, with whom is associated Professor Max Planck.

The University of Bristol, England.—Within recent years the University of Bristol has been enabled to develop unusually good facilities for teaching and graduate work in physics. In the research program of the department of physics special attention has been paid to investigations in molecular physics and their bearing on problems in chemistry. In order to further the plans for research in physics the university has extended its efforts in the field of theoretical physics through a special endowment for this subject and has also carried through a project for increasing its facilities for experimental research. The Foundation has participated in this plan by contributing to a fund which the university has raised for the endowment of the Henry Herbert Wills Physics Laboratory.

The California Institute of Technology.—The California Institute of Technology has recently formulated a program for the further develop-

ment of its departments of mathematics, physics, chemistry, geology, and biology. Through careful selection of the undergraduate and graduate student body, and because of the strong teaching and research staff, the instruction and investigations of the institute in the natural sciences have been kept on a high level. In order to aid the institute in putting its new program into effect the Foundation has made an appropriation toward a fund of \$4,000,000 which the institute is raising for this purpose.

University of Leiden and Union Observatory, Johannesburg, South Africa.—The portion of the heavens visible from the southern hemisphere has been given much less study by astronomers than the portion visible from the northern hemisphere. The development of modern fundamental conceptions of astronomy requires that the researches underlying these be extended to the southern skies. The remarkable clearness of the South African skies offers unusual observing conditions. To secure opportunities for the study of the southern heavens the astronomical observatory of the University of Leiden, Netherlands, in 1923, entered into an agreement with the Union Observatory at Johannesburg, South Africa. The agreement provided for the interchange of astronomers between the two observatories; and each year since the inception



Photograph Excised Here

Henry Herbert Wills Physics Laboratory, University of Bristol, England, toward the endowment of which the Foundation has contributed.



Photograph Excised Here

Biology building, Tsing Hua University, Peiping, China, which the Foundation assisted in building and equipping.

of the plan at least one member of the Leiden Observatory has been attached to the staff of the Union Observatory. In order to provide improved facilities for this joint undertaking, a program of expansion has been initiated involving the erection of a new telescope at the Union Observatory, the formation of a plate library at Leiden, and an endowment for the operation of the telescope. The endowment is administered by an incorporated institution having legal standing and established for the purpose. The University of Leiden investigations are under the direction of Professors de Sitter and Hertzsprung, and Drs. Oort and Woltjer. The Foundation has participated in this program of expansion by making an appropriation toward the cost of the telescope and auxiliary instruments therefor and for the endowment for the operation of the telescope. The University of Leiden, the Union Observatory, and other contributors are providing for the increased maintenance of the observatory, the land, the construction and maintenance of the plate library, and the building to house the telescope and accessory instruments.

Oceanography of the Pacific Coast.—In 1929 a committee appointed by the National Academy of Sciences issued its report on the significance of oceanographic investigations and the opportunities and facilities for such work in America.



Photograph Excised Here

Professor A. A. Michelson in his laboratory at the University of Chicago, where he conducted his experiments to determine the velocity of light. The Foundation made a small contribution toward these experiments.



Photograph Excised Here

Chemical laboratory of Chulalongkorn University, Siam. The Foundation has assisted this university in securing the services of visiting professors in the natural sciences.

There followed the establishment of a central Atlantic oceanographic research station through the development of the Woods Hole Oceanographic Institution. The Foundation's appropriation, in 1930, of \$2,500,000 for the formation of this central Atlantic station, its appropriation in 1929 of \$245,000 toward the development of the Bermuda Biological Station, and the efforts of other agencies have very materially increased the facilities for research in this field in the north Atlantic. During 1930 the Foundation gave support to three stations devoted to oceanography and marine biology on the Pacific Coast. The three stations, situated at La Jolla, California, Pacific Grove, California, and Seattle, Washington, constitute a chain of laboratories on the Pacific Coast of the United States making possible the correlation of effort over an extensive area which is highly diversified as to natural conditions and rich in forms of marine life. The plan of these laboratories includes the active cooperation of the investigators at these three stations and workers in the more remote regions of the Pacific.

The Scripps Institution of Oceanography at La Jolla, belonging to the University of California, has for many years been devoting its efforts to the investigation of fundamental problems of the sea. The growth of the institution

through the increased activities of its staff and of visiting scientists has made necessary additional laboratory space and provisions for maintenance. The Foundation has taken part in the program for increasing the research facilities of this institution by appropriating funds to cover one-third of the cost of a new laboratory building. The other two-thirds of the building costs have been borne by private donors and by the University of California; these have also provided for substantial increases in the annual budget of the institution.

The University of Washington, Seattle, has for several years been operating a marine biological laboratory and oceanographical station at Friday Harbor, Washington, and has been devoting attention to the problems of the sea in a number of its natural science departments. In March, 1930, the Oceanographical Laboratories of the University of Washington were created with the purpose of coordinating the research activities of these different departments. The laboratories now have a permanent staff composed of chemists, zoologists, botanists, and a physicist; their work has the financial support of the university. Other agencies, such as the International Fisheries Commission and the United States Bureau of Fisheries, have strong interest in the activities of the laboratories. An appropriation from the

Foundation will enable the University of Washington to build and equip, on its campus, a laboratory for oceanographical research and in connection therewith to charter and maintain a boat for a period of five years. At the same time university funds for the maintenance of this and the Friday Harbor station are being substantially increased.

Through contributions made in 1925 and 1926 by the Rockefeller Foundation, Stanford University was enabled to increase the amount and scope of the work being carried out at its Hopkins Marine Station, located at Pacific Grove, California. During 1930 the Foundation made a small appropriation toward a fund for increasing the library facilities of this institution.

The University of Munich, Germany.—In 1913 the University of Munich formulated a program for the development of its natural science departments. Owing to the interruptions of the war, only a part of this program was put into effect. Reexamination of the most important needs of the university by a committee of the science faculty showed that the program of 1913 was in the main still the one by which some of the most significant work of the university could best be advanced. After extensive study of this program the Foundation made an appropriation toward the building and equipment of an in-

stitute of zoology which is to be under the direction of Professor von Frisch, who is widely known for his investigations on the behavior of insects.

The University of Munich has long been famous as a center for organic chemistry, and has recognized the importance of a complementary development of its work in physical chemistry. The department of physical chemistry, under the direction of Professor Fajans, has become one of the most fruitful in Europe. However, the laboratories are overcrowded with research workers and are quite inadequate for this type of work. The Foundation has made an appropriation which, with gifts from other donors, will enable the university to build and equip a new institute of physical chemistry.

Aid to Research Funds

Within recent years the necessity for fluid funds for the support of scientific researches has made itself increasingly felt. The needs are usually of a special character and represent temporary assistance to individuals for research projects or to groups working on the same or allied subjects. Such funds are being developed by a number of agencies interested in the advancement of knowledge, including national scientific societies representing various disciplines, other learned bodies, academic and

non-academic institutions. These funds are contributing to the broader comprehension of great scientific problems, advance in which is to be made through the correlated efforts of specialists. They may become a potent factor in the unification of scientific endeavor and may aid considerably in many of the present-day problems associated with over-specialization.

The Rockefeller Foundation has assisted in the development of a number of fluid research funds by grants to several institutions. It is hoped that in aiding over a limited period the establishment of such funds, the research activities of the institution assisted may be so stimulated that the demonstration will enable the institution to secure from its supporters adequate permanent maintenance. Demonstration through productive research has tended to stimulate the development of fluid research funds as a regular part of university budgets, so that many institutions are building up these research resources as their great significance is becoming more generally recognized and as conditions permit.

The National Research Council.—In 1929 the Rockefeller Foundation appropriated to the National Research Council the sum of \$100,000, to be administered by that organization for the broad purposes of research aid. The fund has been used for grants for special apparatus and



Photograph Excised Here

Woods Hole Oceanographic Institution, Massachusetts.



Photograph Excised Here

Preliminary sketch of the oceanographic laboratories of the University of Washington, which will be built with Foundation aid.

equipment, assistance, supplies, field expenses; for general grants; and for combined purposes. To December 9, 1930, the committee of the National Research Council in charge of this appropriation had made 122 grants for aid in research in a wide variety of scientific subjects. These included: astronomy, physics, chemistry, engineering, geology, geography, medical sciences, biology, anthropology, and psychology. The recipients of these grants worked in sixty-two institutions, of which fifty-five were academic and seven non-academic. The great majority of the grants were for sums of \$500 to \$1,000, and in most cases partial support was provided by the recipient's institution to further the investigations for which the grants from the National Research Council were given.

In 1930 the Foundation made another grant of \$100,000 to the National Research Council for the same general purposes. Besides being available for small grants in aid of research this fund may be used to supply supplemental support to cooperating groups working on special projects.

Washington University, St. Louis, Missouri.—An appropriation was made by the Foundation to Washington University, St. Louis, to be used as a fluid research fund. The appropriation covers a period of seven years and is so drawn that the Foundation's contributions decrease



Photograph Excised Here

New laboratory building of the Scripps Institution of Oceanography, La Jolla, California, toward the cost of which the Foundation contributed.



Photograph Excised Here

Hopkins Marine Station of Stanford University, Pacific Grove, California, which in 1930 received aid for the extension of its laboratory facilities.

annually in anticipation of the university's increasing share in the support of the fund. The fund is administered by a committee and is used to assist research in the fields of physics, chemistry, botany, zoology, and the preclinical subjects, such as physiology, pathology, and cytology.

Grants in Aid of Research Projects

The Rockefeller Foundation has occasionally given support to the researches of leading investigators and to groups working in allied fields where assistance of a particular nature has been required in order to bring specially significant pieces of research to a focus. Aid has been given to the University of Vienna toward the purchase and installation of a liquid air plant to be used jointly for work in the natural science departments and the department of medicine. A small grant has been made to the Second Institute of Physics of the University of Vienna for assistance to Professor Hans Pettersson and his associates, who have devised a new method for the counting of the H-particles on photographic films. The grant makes possible the completion of special apparatus for the quantitative study of disintegration phenomena involving delicate spectroscopic tests for minute quantities of new elements generated in artificial disintegrations.

Assistance has been given to the University of Freiburg im Breisgau, Germany, for the purchase of special scientific research equipment to be used in the investigations of Professor Georg von Hevesy. The university has agreed to erect an addition to the Institute for Physical Chemistry in order to provide Professor von Hevesy with the necessary facilities for his researches. These are concerned with the applications of physical chemistry to geochemistry, more particularly with problems of nuclear stability.

The investigations of Professor Herbert Freundlich, temporary director of the Kaiser Wilhelm Institute of Physical Chemistry and Electrochemistry, Berlin-Dahlem, Germany, have been aided by an appropriation to that institute toward the purchase of special scientific equipment. Professor Freundlich is engaged in important researches in colloid chemistry, and this grant will make possible the investigation of problems requiring special equipment.

Professor Geza Zemplen of the Royal Hungarian Joseph Technical University of Budapest has recently devised new methods for the synthesis of complex carbohydrates. These methods are of value for the more exact determination of the structure of important natural polysaccharids such as starch, glycogen, and cellulose. In order to enable Professor Zemplen and his

associates to carry forward these researches, the Foundation, through an appropriation of funds, has participated with the university in a program of support over a limited period.

For several years the Foundation has appropriated funds to assist the science departments of a number of Chinese universities from which the Peiping Union Medical College receives its students. With the growth of these universities and the strengthening of their teaching staffs opportunities for research are developing within the institutions. In 1929 the Foundation made an appropriation for research aid funds for the medical and natural sciences in China. A similar appropriation for the stimulation of research activities in Chinese universities was made in 1930. Grants from this fund are made through the Foundation's representatives in the Far East.

Aid to Publications

In 1926 the Union of American Biological Societies undertook the publication of *Biological Abstracts*, a cooperative enterprise, international in scope, for abstracting and indexing periodically the world's biological literature. The Rockefeller Foundation gave some financial support toward the organization of this endeavor and has also made regular appropriations for the

editorial work since its inception. The number of articles and the total volume of material abstracted have grown materially. There are now more than 6,000 journals publishing the results of researches in biology, and *Biological Abstracts* is abstracting almost 50,000 articles annually. Undoubtedly the dissemination of the results of scientific research and of new scientific conceptions constitutes one of the most serious problems in the organization of intellectual endeavor. This problem is receiving careful study from various sides. In 1930 the Foundation made another appropriation toward the support of *Biological Abstracts* for a period of two years.

Fellowships and Visiting Professorships

The Foundation continued during 1930 its rather extensive fellowship program in the natural sciences. During this year it supported and administered directly 100 European fellowships in these sciences, appropriating for this purpose \$150,000. Forty-four of these fellowships were granted by the International Education Board before its activities were assumed by the Rockefeller Foundation. The tables on pages 208 and 209 show the distribution of the fellows according to country of origin and place of study. From January, 1924, to December 31, 1930, 570 persons, exclusive of the number from

FELLOWSHIPS IN THE NATURAL SCIENCES ADMINISTERED BY THE ROCKEFELLER FOUNDATION DURING 1930
Place of Study

<i>Country of Origin</i>	<i>Belgium</i>	<i>Canada</i>	<i>Czechoslovakia</i>	<i>Denmark</i>	<i>England</i>	<i>France</i>	<i>Germany</i>	<i>Irish Free State</i>	<i>Scotland</i>	<i>Sweden</i>	<i>United States</i>	<i>United Kingdom</i>	<i>Austria</i>	<i>Bulgaria</i>	<i>Czechoslovakia</i>	<i>Denmark</i>	<i>England</i>	<i>France</i>	<i>Germany</i>	<i>Irish Free State</i>	<i>Scotland</i>	<i>Sweden</i>	<i>United States</i>	<i>United Kingdom</i>
Australia.....	2	..	1*	3	3	1	4	2	5	3
Austria.....	1	..	1
Bulgaria.....	1
Czechoslovakia.....	1†
Denmark.....
England.....
Finland.....
France.....	4
Germany.....	2†	3	1	..	1	..	2(1*)	2	1	28
Greece.....	1
Hungary.....
Italy.....
Latvia.....
Netherlands.....	1	3
Norway.....	1	3
Poland.....	1	1	2	6
Rumania.....	1	2
Russia.....	2	2	3(1*)	9
Scotland.....	1
Spain.....	1	1
Sweden.....	..	1	1	3
Switzerland.....	2	3
Yugoslavia.....	1	1
Totals.....	1	1	1	1	3	10	5	22	1	1	5	7	1	1	1	1	3	39	100					

* Studied also in England.

† Studied also in Germany.

‡ Studied also in Italy.

China, held fellowships in the natural sciences supported and administered by the Rockefeller Foundation and the International Education Board. Of this number 494 were Europeans.

**DISTRIBUTION OF FELLOWS IN THE NATURAL SCIENCES
ACCORDING TO FIELD OF STUDY**

<i>Country of Origin</i>	<i>Physical Sciences</i>	<i>Biological Sciences</i>	<i>Totals</i>
Australia.....	..	3	3
Austria.....	2	1	3
Bulgaria.....	1	..	1
Czechoslovakia.....	4	..	4
Denmark.....	1	1	2
England.....	4	1	5
Finland.....	2	1	3
France.....	5	2	7
Germany.....	23	5	28
Greece.....	1	..	1
Hungary.....	1	..	1
Italy.....	..	2	2
Latvia.....	1	..	1
Netherlands.....	1	2	3
Norway.....	1	2	3
Poland.....	4	2	6
Rumania.....	2	..	2
Russia.....	7	2	9
Scotland.....	1	..	1
Spain.....	1	..	1
Sweden.....	5	2	7
Switzerland.....	1	5	6
Yugoslavia.....	1	..	1
	—	—	—
Totals.....	69	31	100

In addition, the Foundation has for several years given support to the fellowship program of the National Research Council, which provides for training in research in the physical and biological sciences of American students in this

country and abroad. During 1930, 103 fellows in mathematics, physics, and chemistry, and 91 fellows in biology, agriculture, and forestry were supported under this program. Of the total 194 fellows, 150 worked in American institutions and 44 in European institutions.

For some years, also, the Foundation has enabled Chinese students to pursue predoctorate studies through support of a fellowship program designed to train Chinese students for teaching positions in Chinese universities. Most of the students receiving this fellowship support have studied at American institutions. A small number of fellowships have been granted for study in China. Several students who have received their master's degrees in China are now pursuing their doctorate studies at American institutions. During 1930 there were provided from this fund sixteen fellowships for study in China and fifteen fellowships for study abroad. Of the latter number seven were in biological subjects and eight in physics and chemistry.

An appropriation to finance visiting professorships in biology at two Japanese universities, Keio Gijuku University in Tokyo and Tohoku Imperial University in Sendai, was made by the Foundation in 1927. The appropriation was for a term of five years, 1927-1932. Doctor Charles M. Child of the University of Chicago served as

visiting professor at Tohoku Imperial University in 1930.

Travel Grants

The Rockefeller Foundation has from time to time invited eminent scholars to travel abroad as its guests. Such invitations are given in connection with projects in the development of which the Foundation is taking a part and in relation to subjects which it is studying or which constitute a portion of its active program.

During 1930 opportunity for travel in the United States was given to Professors Rudolf Ladenburg and Max von Laue, both of the Kaiser Wilhelm Institute of Physics, Berlin-Dahlem, for the purpose of studying modern laboratories and research equipment for physics. Professor Giorgio Abetti, of the Royal Astrophysical Observatory at Arcetri, Italy, was given opportunity to make observations at the Mt. Wilson Observatory of the Carnegie Institution of Washington at Pasadena, California, and to visit other astronomical observatories in the United States. In connection with the development of research facilities for oceanography on the Pacific Coast, Professor Thomas Thompson made a study of American and European oceanographical stations with the support of the Rockefeller Foundation.

THE NATURAL SCIENCES STAFF DURING 1930

DIRECTOR

Max Mason*
Herman A. Spoehr†

ASSOCIATE DIRECTOR

Lauder W. Jones

IN CHARGE OF FELLOWSHIP PROGRAM IN EUROPE

W. E. Tisdale

ASSISTANT IN FELLOWSHIP PROGRAM IN EUROPE

William J. Robbins‡
Frank Blair Hanson||

ADVISER IN THE FAR EAST

N. Gist Gee

* Until September 1, 1930.

† From September 1, 1930.

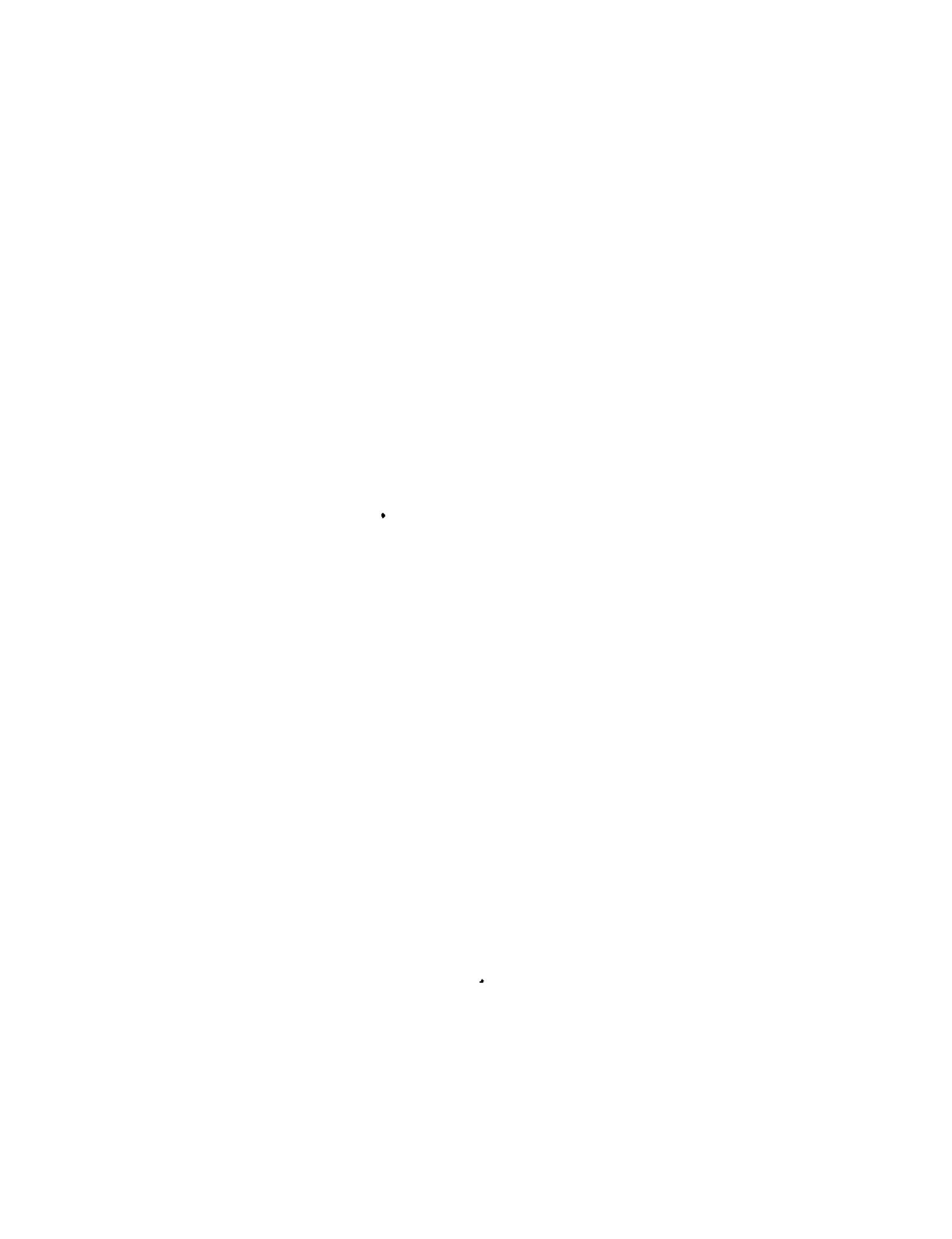
‡ Resigned August 30, 1930.

|| From July 1, 1930.

THE SOCIAL SCIENCES

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THE SOCIAL SCIENCES

Appropriations in the field of the social sciences during 1930 totaled \$2,617,000. Over two-thirds of this amount fell within two major programs: (1) the support of general social science research and advanced training at institutional centers both in the United States and abroad, for which \$888,000 was made available during the year; and (2) the promotion of scientific inquiry in the field of industrial hazards and economic stabilization, for which \$980,000 was voted. The remainder of the total—the sum of \$749,000—was spread over certain smaller programs and a number of miscellaneous items.

Support of Research and Advanced Training at Institutional Centers

The strengthening of important centers of advanced training and research has always constituted the chief element of the Foundation's program in the social sciences. A considerable number of such centers have been aided in the past. During 1930 the institutions listed on the following page were provided with funds for general social science research in the amounts indicated.

218 THE ROCKEFELLER FOUNDATION

**INSTITUTIONS RECEIVING AID FOR RESEARCH AND ADVANCED TRAINING
IN THE SOCIAL SCIENCES**

Columbia University, New York City.....	\$675,000
The University of Virginia, Charlottesville.....	75,000
Fisk University, Nashville, Tennessee.....	10,000
McGill University, Montreal, Canada.....	110,000
The Institute of Economics and History, Copenhagen, Denmark.....	18,000
Total.....	<hr/> \$888,000

Columbia University

The grant to Columbia University provided for a ten-year extension of an earlier five-year appropriation made in 1925 by the Laura Spelman Rockefeller Memorial. The funds are administered under the Columbia University Council for Research in the Social Sciences. Numerous projects, some cooperative in character, have been supervised and financed under this body. Several important contributions have already been published, and others are in final stages of preparation.

The University of Virginia

With aid from the Laura Spelman Rockefeller Memorial, an Institute for Research in the Social Sciences was established at the University of Virginia in 1926. In developing the institute's program particular emphasis has been placed upon the study of the social problems of Virginia and the South. The series of volumes in which

significant findings have been published has attracted widespread interest. The grant made by the Foundation in 1930 provided further support for the institute on a tapering schedule over a five-year period, at the end of which time the university will assume full responsibility for the permanent maintenance of the institute's activities.

Fisk University

Work in the social sciences at Fisk University has been so materially strengthened during the past four or five years as to make the university now an outstanding negro center for advanced training and research. The Laura Spelman Rockefeller Memorial made liberal grants toward this program of development prior to the re-organization of the Rockefeller boards. The appropriation made to the university by the Foundation in 1930 provided for an extension of support for one year, during which time it was expected that the situation would be examined with a view to possible further action.

McGill University

Prior to 1930, no grant was made to any Canadian University by either the Laura Spelman Rockefeller Memorial or the Rockefeller Foundation in connection with the program for

strengthening institutional centers for advanced work in the social sciences, though the desirability of an extension of the program to Canada was recognized from the outset. Promising developments at McGill University, Montreal, during 1929-30 led the Foundation to make a five-year grant for the support of social science research under the administration of the university authorities.

The Institute of Economics and History, Copenhagen

Among the European centers of social science research to which financial aid has been given for some time past is the Institute of Economics and History at Copenhagen, Denmark. Eminent Danish professors and influential Danish political leaders have joined in the research activities of this organization. A significant program of scientific investigation is carried on through the institute, and numerous important foreign contacts of a scholarly and scientific nature are maintained. The grant made by the Foundation to the institute in 1930 provided for an extension of support over a three-year period.

Industrial Hazards and Economic Stabilization

In its direct support of specific research projects and programs in the social sciences, the Foundation is concentrating more and more

definitely upon certain recognized fields of inquiry. One of the most important of these is concerned with the hazards of economic enterprise, particularly as these relate to uncertainty of competitive outcome in such ways as to raise issues of general economic stability. The alternations of activity and idleness, of prosperity and depression, with which business enterprise is afflicted, constitute a social problem of the first order, and all the forces that science and administration can bring to bear to resolve the difficulties should be marshaled as rapidly as possible. The Foundation consequently is making research and experimentation in this field one of its major interests.

The appropriations made during 1930 in connection with this program were as follows:

Harvard University, Cambridge, Massachusetts.....	\$875,000
President's Conference on Unemployment, Washington, D. C.	50,000
National Institute of Public Administration, New York City	15,000
The National Institute of Industrial Psychology, London, England.....	20,000
The Austrian Institute for Trade Cycle Research, Vienna....	20,000
Total.....	<hr/> \$980,000

Harvard University

The program at Harvard University has been under way for the past five years. It has gone forward during that period under the primary direction of Professors L. J. Henderson and Elton

Mayo and has been centered at the Graduate School of Business Administration. Work of notable significance on the physiological effects of fatigue has been done by Dr. Henderson and his associates in the fatigue laboratory, and investigations of like importance on the psychology of work have been carried on in certain large industrial establishments under Professor Mayo's consultative direction. The program has now been extended to cover a variety of forms of hazard in industry, including accident and disease. A university committee in which the School of Public Health, the Medical School, the Engineering School, and certain departments of Harvard College, as well as the Business School, are represented, has supervisory charge of the program. The appropriation made by the Foundation in 1930 provided necessary funds over a seven-year period. The work gives promise of unusually significant results.

The President's Conference on Unemployment

The President's Conference on Unemployment was called together following the business depression of 1920-21. Under the direction of Mr. Herbert Hoover, at that time secretary of commerce, the conference sponsored an important investigation of the business cycle, with special reference to unemployment. Under a sub-

committee of the conference, this was followed in 1928-29 by a study of recent economic changes, the two-volume report of which attracted widespread attention. The dramatic events which occurred late in 1929 in the world of business and finance made an extension of this analysis seem highly desirable. The Foundation consequently voted half of the funds required for the further inquiry. This appropriation was subsequently matched by money from other sources. The scientific work, as in the case of the original study, is being done through the National Bureau of Economic Research. It is expected that a final report will be issued late in 1931.

The National Institute of Public Administration

Under the laws of 1929 the State of New York appointed a commission to study industrial conditions affecting older men and women workers, with a view to aiding the legislature in deciding upon the passage of a law providing relief for old age dependency. The investigations of this state commission were carried on with the technical assistance of the National Institute of Public Administration. In connection with the inquiry, data of exceptional value with regard to employment policies of business concerns and the employment experience of older men and women workers came into the commission's possession.

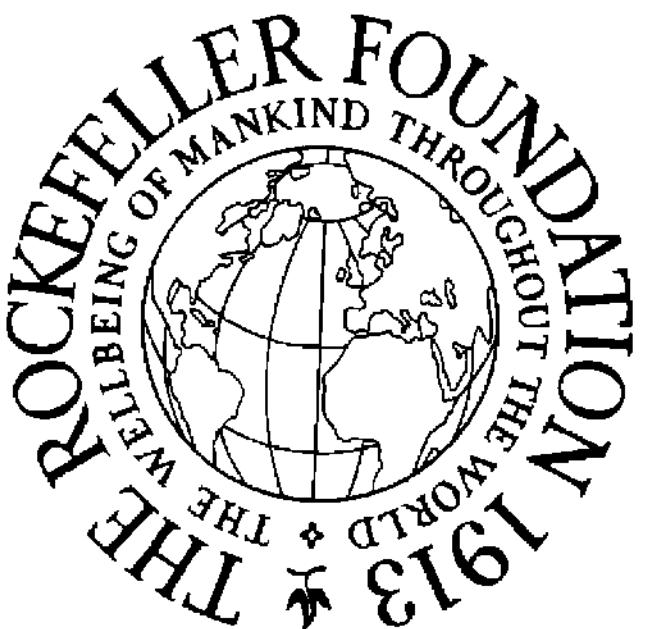
Those familiar with this material came to feel strongly that the data should be thoroughly analyzed and made generally accessible through some formal publication. The Foundation's appropriation to the National Institute will make this possible. The work is being done in appropriate collaboration with the New York Commission on Old Age Security.

The National Institute of Industrial Psychology, London

The National Institute of Industrial Psychology, established in London in 1921, has rendered important service in dealing with problems of personnel and scientific management in British commerce and industry, and in developing more effective methods of individual vocational guidance. The research activities of the institute were given financial aid by the Laura Spelman Rockefeller Memorial for a five-year period beginning in 1925. A grant by the Foundation in 1930 provided support to the work for a further term of two years.

The Austrian Institute for Trade Cycle Research

The Austrian Institute for Trade Cycle Research, at Vienna, has been engaged since 1927 in research on current economic conditions in Austria. Results have been published in a monthly bulletin, which has been favorably re-



Photograph Excised Here

Institute of Human Relations, Yale University, which is receiving support from the Rockefeller Foundation.

viewed in many quarters. The able staff of the institute has planned a series of comparative studies of a more general character. With the aid of a five-year grant made by the Foundation in 1930 it will be possible to bring some of these basic investigations through to completion.

International Relations

Another specific field in which the Foundation is taking an interest is that of international relations. Issues in this field are traditionally of a controversial character, but more recent experience has demonstrated that thoughtful and dispassionate research can in many instances greatly reduce the play of national prejudices and unmistakably facilitate the amicable adjustment of national differences. In this connection quick results in the form of positive agreements are perhaps not so important as the continuous cultivation of a promising mode of procedure. The expert and the statesman need to develop the habit of fruitful collaboration. Only so can research in the field of international relations fully justify itself. Foundation appropriations during 1930 under the program in this field were:

Institute of Pacific Relations.....	\$250,000
The League of Nations, Fiscal Committee.....	90,000
Total.....	\$340,000



Photograph Excised Here

Anthropoid Experiment Station of Yale University, near Orange Park, Florida, to which the Foundation has contributed.

The Institute of Pacific Relations

The important contributions made by the Institute of Pacific Relations in the treatment of some of the more difficult and pressing problems of international relations among the nations of the Pacific are a matter of common knowledge. The biennial conferences of the institute have given convincing evidence of the usefulness of unofficial discussions of controversial matters when adequate provision has been made for the preparation and presentation of relevant factual materials. The research activities of the institute and its several constituent national councils are an indispensable part of its procedure. These activities were first given substantial assistance through a grant by the Laura Spelman Rockefeller Memorial. The appropriation made to the institute by the Foundation in 1930 extended this support for a further five-year period.

The League of Nations**Fiscal Committee**

From time to time in the work of the League of Nations, studies are made by experts with a view to the assembling of facts on the basis of which international difficulties may be satisfactorily adjusted. Among the technical subjects which have occasioned considerable international fric-

tion is that of double taxation. As business enterprises increasingly extend their organizations and producing plants into foreign countries, these questions of multiple assessment threaten to give rise to more and more dissatisfaction. The problem of dealing with this matter was assigned in 1929 to the Fiscal Committee of the League's Secretariat. The group of experts who came together as a result of this action felt the need of an extended study of certain technical questions upon which adequate information was lacking. It was not possible for the budget of the League to carry the necessary expenses of such an inquiry. An appropriation made by the Foundation in 1930 will enable the experts to bring together the data on the basis of which international conventions dealing with the taxation of alien properties may be reasonably expected.

Schools of Social Technology

Under the Laura Spelman Rockefeller Memorial the program in the social sciences included limited assistance to selected schools of social technology—law, business, social work, and public administration. The Foundation has recognized the desirability of continuing this program in certain instances. During 1930 two grants were made in the field of training for social

service administration. These grants were as follows:

National Catholic School of Social Service, Washington, D. C.	\$15,000
Atlanta School of Social Work, Georgia.....	11,500
Total.....	\$26,500

The National Catholic School of Social Service

The National Catholic School of Social Service is the principal training center for lay workers in social service under Catholic auspices. The school was aided financially by the Laura Spelman Rockefeller Memorial as early as 1924. A grant by the Foundation in 1930 extended this support for one year.

The Atlanta School of Social Work

The principal training school for negro social workers in this country is the Atlanta School of Social Work. Aid to this school was included in the program of the Laura Spelman Rockefeller Memorial looking toward the improvement of professional preparation for social service. The appropriation made to the school by the Foundation in 1930 continued this aid through the fiscal year 1931-32.

Miscellaneous Items

Seven social science appropriations made by the Foundation during 1930 did not fall within

any recognized programs. These seven grants were as follows:

The American Law Institute, Philadelphia, Pennsylvania....	\$ 30,000
The Massachusetts Society for Mental Hygiene, Boston.....	50,000
The Association for the Study of Negro Life and History, Washington, D. C.....	22,500
Harvard University, Crime Survey, Boston.....	10,000
The Institute for Comparative Research in Human Culture, Oslo, Norway.....	25,000
Columbia University, Study of Compensation for Automobile Accidents, New York City.....	15,000
The Social Science Research Council, Instruction in Agricul- tural Economics, at Washington, D. C.....	40,000
Total.....	\$192,500

The American Law Institute

The grant to the American Law Institute was a one-year extension of support previously provided by the Laura Spelman Rockefeller Memorial, under which the institute drafted a model code of criminal procedure for the United States. An additional year's work was important in order that there might be appropriate study of the problems involved in adapting the code to the special conditions existing in some of the states in which its formal adoption was under consideration.

The Massachusetts Society for Mental Hygiene

For a number of years past the Massachusetts Society for Mental Hygiene, under a subvention from the Laura Spelman Rockefeller Memorial, has been making an intensive study of the case

records of the Boston Psychopathic Hospital. The study has strikingly illuminated the difficulties of accurate diagnosis in the field of the mental diseases. While the early findings of the inquiry were largely destructive in character, final results of a constructive sort appear now to be assured. The Foundation's grant will make it possible to carry the work through 1932.

The Association for the Study of Negro Life and History

The Association for the Study of Negro Life and History has been in existence since 1922 and has been notably successful in stimulating research by negro scholars working in its field. Financial aid was received by the association for a number of years from the Laura Spelman Rockefeller Memorial. In 1929 the Foundation continued this support for one year. A further extension for three years has now been provided.

Harvard University Survey of Crime

The Harvard crime survey has been under way since 1926. The work has been in the hands of a group of eminent specialists and a report of unusual significance is expected. Requisite funds for the survey have been drawn from a number of sources. The grant of \$10,000 made by the Foundation in 1930 was to provide the amount necessary to complete the work.

The Institute for Comparative Research in Human Culture

The Institute for Comparative Research in Human Culture, at Oslo, Norway, is a center for the study of the cultures and languages of the peoples of the far north. The Laura Spelman Rockefeller Memorial gave financial assistance to the institute over a period of years. The grant made by the Foundation in 1930 provided support on a tapering basis through the year 1934.

Study of Compensation for Automobile Accidents

Among the necessary social adjustments to the phenomenal increase in the use of the motor car, is the development of a satisfactory system of compensation for automobile accidents. A study of the problem has been in progress for the past two years under the direction of a special committee operating through the Columbia University Council for Research in the Social Sciences. Funds for the investigation have been supplied from the outset by the Foundation. An additional grant of \$15,000 was made in 1930 to permit the completion of the work and the publication of the results.

Social Science Research Council**Instruction in Agricultural Economics**

Large Federal funds available under the Purnell Act for research in agricultural eco-

nomics and rural sociology have brought out conspicuously the relative dearth of competent research personnel in this field. For over two years the Social Science Research Council has been administering a special program of fellowships in agricultural economics and rural sociology with a view to the speedy training of an additional corps of competent research workers. Funds for this fellowship program were provided by the Laura Spelman Rockefeller Memorial. It has seemed desirable more recently to supplement this fellowship program with facilities for advanced instruction at Washington, D. C., where an outstanding group of experts come together in the government service. Administrative responsibility for this program of instruction has been assumed by the Social Science Research Council. A grant to the council has made necessary funds available over a period of four and a half years.

It will be noted that all of the miscellaneous items just described involved continuations of undertakings previously supported by either the Laura Spelman Rockefeller Memorial or the Foundation. With one exception, the last on the list, the grants were simple extensions. No further Foundation aid in connection with these items is to be expected. In general, Foundation appropriations in the social sciences are likely to

fall more and more exclusively within recognized programs.

General Programs

Certain appropriations made by the Foundation during 1930 related to more inclusive aspects of the field of the social sciences, such as publications, grants in aid of research, planning conferences, and fellowships. The specific grants of this character were as follows:

<i>Encyclopaedia of the Social Sciences</i>	\$150,000
Research aid fund for Europe.....	25,000
Social Science Research Council, Summer Conference.....	15,000
Total.....	\$190,000

In addition to these specific appropriations, funds previously made available were expended during 1930 for fellowships, in the following aggregate amounts:

Fellowships for American candidates..... (Administered through the Social Science Research Council)	\$121,566
Fellowships for foreign candidates.....	\$123,633

The Encyclopaedia of the Social Sciences

The first three volumes of the *Encyclopaedia of the Social Sciences* were published in 1930. Additional volumes are expected to appear at the rate of three a year. This extensive work, which will run to fifteen volumes, is thus scheduled for completion at the end of 1934. The costs of the undertaking have assumed larger proportions

than were first estimated. The Laura Spelman Rockefeller Memorial made a substantial contribution to the original financing. The appropriation made by the Foundation in 1930 was essentially in fulfilment of the Memorial's commitments in this connection.

Research Aid Fund for Europe

Funds for grants-in-aid to individual research workers have been administered for the United States and Canada for some time by the Social Science Research Council. It has seemed desirable to make similar assistance available to social scientists in Europe. The appropriation voted by the Foundation for this purpose in 1930 will be administered by the staff of its Paris office.

Social Science Research Council, Summer Conference

Since 1926 the Social Science Research Council has each year held an extended summer conference at which has been concentrated much of the council's most effective thinking and planning for improved research in the social sciences. The results of these conferences have been periodically appraised and numerous experiments have been made in conference program and procedure. In general, the conferences have been regarded as the most important single element in the council's activities. From 1926 to 1929 the

conferences were financed on annual grants from the Laura Spelman Rockefeller Memorial. In 1930 the Foundation made the necessary funds available.

Fellowships

The Foundation's fellowship program in the social sciences continued in 1930 to be one of the outstanding features of its work in this field. Through the offices of the Social Science Research Council, fellowships were awarded to 102 younger American research workers, while the Foundation granted directly, and itself administered, 115 fellowships for foreign scholars in the earlier years of their professional careers. The countries in which the American fellows carried on their work are indicated in the following tabulation. Several studied in more than one country.

<i>Place of Study</i>	<i>Number of Fellows</i>
Australia.....	1
Austria.....	4
Baltic States.....	1
Canada.....	2
China.....	2
England....	15
Finland.....	1
France.....	10
Germany..	11
Italy.....	3
Netherlands.....	1
Netherlands East Indies..	1
Russia.....	2
Spain.....	2
Switzerland.....	4
United States.....	60

The countries of origin and of study for the foreign fellows are shown in the table on page 238.

While the results of this fellowship program are somewhat difficult to appraise specifically, it is generally thought that no part of the Foundation's undertaking in the social sciences yields long-term values of greater significance.

FELLOWSHIPS IN THE SOCIAL SCIENCES ADMINISTERED BY THE ROCKEFELLER FOUNDATION DURING 1930
Country of Origin

	Austria	Canada	China	England	France	Germany	Italy	Nether-lands	Switzer-land	Tangan-yika	United States	Yugo-slavia	Several Countries	Total
Australia.				6 (1*)							1		1	1
Austria.			1	1		1	1				3 (1†)			2
Bulgaria.														2
Canada.	1										1			2
China.		1									1			1
Czechoslovakia.			2	1*							3			2
Denmark.											4			1
France.						2 (1*)	2 (1†)	1			9			19
Germany.				3 (1§)	6 (2†)						10 (1§)	1	1	18
Great Britain.	1†		1	1		1			1			2		1
Greece.														1
Hungary.											4			1
Italy.						2					5 (1†)			6
Netherlands.											6			6
New Zealand.				2							4			2
Norway.				1†							1			1
Poland.				1							3			2
Sweden.											1			1
Switzerland.											1			1
Syria.														2
United States.						1							1	1
Yugoslavia.														1
Totals.	1	1	1	17	9	11	6	1	1	1	57	1	8	115

* Studied also in United States

† Studied also in France

‡ Studied also in Belgium

§ Studied also in Switzerland

|| Studied also in Austria

¶ Studied also in England

THE SOCIAL SCIENCES STAFF DURING 1930

DIRECTOR

Edmund E. Day

ASSOCIATE DIRECTOR IN EUROPE

Selskar M. Gunn*

ASSISTANT DIRECTOR

Sydnor Walker

ASSISTANT DIRECTOR IN EUROPE

John V. Van Sickle

* From October 10, 1930.

THE HUMANITIES

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THE HUMANITIES

Work in 1930

During 1930 the Rockefeller Foundation administered a number of appropriations, authorized in previous years, for work in the humanities in the United States and other countries. In addition, it made new appropriations, amounting to \$274,000, toward projects in this field. In general, the emphasis was in the historical arts and sciences, including archeology, and in bibliography.

The Foundation also made indirect contributions to individuals and institutions in the United States, for humanistic studies, through payments to the American Council of Learned Societies for the cost of administration and to provide funds for fellowships and grants in aid of research.

Research Projects

In the matter of research facilities the liberal arts have not in recent years received as much assistance as have the natural sciences, the social sciences, and medicine. The result has been a feeling of discouragement among scholars in these fields and a reluctance on the part of young investigators to undertake researches in purely humanistic subjects. Despite this situation, much work is in progress in various American

universities and valuable contributions to humanistic knowledge are being made by investigators in the liberal arts.

**The Johns Hopkins University
General Research Fund in the Humanities**

For the furtherance of research in the humanities and the training of investigators for such research, the Foundation made a grant of \$100,000 to the Johns Hopkins University to serve as a general research fund for humanistic studies over a five-year period beginning July 1, 1930. This grant is to be used for the support of investigations already under way and for new work. Activities now in progress include work on a four-volume publication on Roman economic conditions; an eight-volume new variorum edition of Spenser's poems; a critical survey of medieval English studies prior to 1100 A.D., which is intended to supplement other well-known manuals for medieval studies; and a continuation of publications on Franco-American relations. Present aid will also permit the completion of the first half of a history of French dramatic literature in the seventeenth century.

**The University of Chicago
Studies in Comparative Philology**

This project, for which a full-time organization has been set up at the University of Chicago, was

described in the Foundation's Annual Report of last year. In 1927 the university received a grant from the General Education Board toward a general research fund for use in the department of the humanities. In 1929 it received from the Foundation a grant of \$50,000 to be used over a five-year period beginning January 1, 1930, for researches in the field of comparative philology. Studies are now under way and, according to present plans, they will be completed and published within five years.

American Schools of Oriental Research

Jerusalem and Baghdad

The aid given by the Foundation to the two American Schools of Oriental Research, one at Jerusalem and the other at Baghdad, was described in the Annual Report of last year. The work of the school at Jerusalem consists of lectures to advanced students and research by the staff. There is provision for five traveling fellowships. A major part of the grant for 1930 was used in completing certain construction work. New construction is also planned for the school at Baghdad, which has occupied a room in the Iraq Museum by courtesy of the government at Iraq. Important libraries of Semitic scholars have been obtained for the school. Within the proposed seven-year period of special

support plans for modest but substantial development will be put into effect.

Library and Bibliographical Work

The Bodleian Library, Oxford University

The Bodleian Library at Oxford University occupies a unique position in the field of humanistic studies. Problems connected with the future development of this library have for some time been receiving serious consideration at the university. In June, 1929, the Rockefeller Foundation made an appropriation for preliminary studies in connection with the future program of the library. In February, 1930, a commission was appointed by Oxford University to visit various universities and libraries in Europe, the United States, and Canada, and to report upon the organization, planning, equipment, and methods of administration of such libraries and in general to advise the university as to the best methods of enlarging facilities at the Bodleian Library to meet modern requirements. In April, 1930, the Foundation appropriated a sum to defray the expenses of the visiting Oxford Commission, which was composed of the following members: Sir Henry Miers, fellow of Magdalen College, chairman; Sir Frederick G. Kenyon, honorary fellow of New College and Magdalen College and director of the British



Photograph Excised Here

Photograph from Wide World Photos

Excavation of the ancient Athenian market place, under the auspices
of the American School of Classical Studies.



Photograph Excised Here

Photograph by Ewing Galloway, New York

Library of Trinity College, University of Cambridge, England.

Museum Library; Sir Edmund K. Chambers, Corpus Christi College; George N. Clark, fellow of Oriel College; Henry R. F. Harrod, student of Christ Church; Kenneth Sisam, Merton College, secretary. During September and October of 1930 the commission visited forty libraries in the United States and Canada.

The University of Cambridge Library

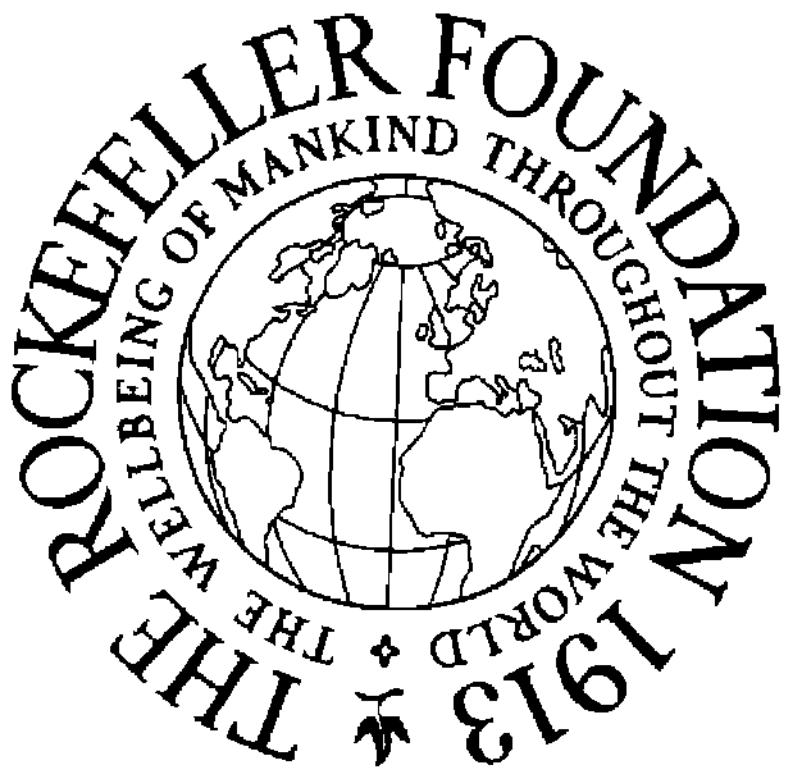
In 1928 the International Education Board made a grant of £700,000 to the University of Cambridge toward the construction, equipment, and upkeep of a building for the university library and toward the endowment and maintenance of the library. In 1930 the Rockefeller Foundation invited a commission appointed by the University of Cambridge to visit university libraries in Europe, in the United States, and in Canada, as its guests. The commission was composed of the following members: Sir Giles G. Scott, associate of the Royal Academy, fellow of the Royal Institute of British Architects; Alwyn F. Scholfield, fellow of King's College, librarian of the University of Cambridge; H. C. Stanford, St. John's College; H. C. Marshall, Trinity College; and C. F. Cooper, Trinity Hall. The commission spent approximately three weeks touring the United States and making a close study of certain university libraries.



Photograph Excised Here

Bodleian Library, Oxford University, England.

Second Intentional Exposure



Photograph Excised Here

Bibliothèque Nationale, Paris, France

The Bibliothèque Nationale of France suffered even more seriously than other great European libraries during the World War. To enable this library to fill gaps in its collections of foreign journals and publications of learned societies, as well as gaps in certain other collections comprising maps and manuscripts, the Rockefeller Foundation in 1930 made it a grant of \$50,000.

The British Museum

An additional grant toward the publication of a new edition of the Catalogue of Printed Books in the British Museum, a project which was fully described in the Annual Report of last year, was made by the Foundation in 1930 to cover the difference between the cost of this undertaking as first estimated and the amount later found necessary. A sufficient number of subscriptions have been secured in the United States and elsewhere to warrant the publication of the catalogue. The 160 to 165 volumes comprising this monumental work will be issued at the rate of twelve a year.

The American Library in Paris

Between the years 1923 and 1927 the Laura Spelman Rockefeller Memorial appropriated \$129,000 to the American Library in Paris. The

principal purpose of this library is to serve as a center for information about the United States for the people of Europe. It has associated with it an information service and a library school. In 1929 the Rockefeller Foundation made an appropriation to the library to be expended on a descending scale over a period of three years, beginning in 1930.

Fellowships and Grants in Aid of Research

The American Council of Learned Societies

Foundation aid for the support of fellowships in the humanities and of grants to individuals engaged in specific research in this field, is extended through certain national or other well-known agencies, one of which is the American Council of Learned Societies. An extensive appropriation, payable over a three-year period, was made to this council in 1929 for the establishment of fellowships and research aid grants covering the entire range of humanistic studies.

All the fellowships awarded by the American Council of Learned Societies are for advanced work. Grants in aid of research fall into the two categories of small and larger grants. The smaller grants, of \$300 and less, are available to scholars of all ages who are citizens or residents of the United States or Canada and who are engaged in specific projects of research for which aid is

actually needed and not obtainable from any other source. The larger grants, ranging in amount from \$500 to \$2,000, are reserved for mature scholars of demonstrated ability engaged in important research to which they are able to devote at least six months without interruption. These grants are made with the purpose of assisting in the advancement of knowledge through aiding individual undertakings of fundamental importance. During 1930 twenty-six small grants, eight larger grants, and fourteen fellowships were awarded.

The American School of Classical Studies, Athens

During 1930 the Foundation made a payment in connection with a 1929 appropriation for fellowships in archeology over a three-year period, to be administered by the trustees of the American School of Classical Studies in Athens. The purpose of these fellowships is to keep up the supply of well-trained archeologists both for teaching positions in universities and for actual research work in connection with further important excavations.

The Abraham Lincoln Stiftung, Dresden

The Abraham Lincoln Stiftung is an organization which has been established in Germany for the purpose of aiding individuals selected as

exemplifying the humanistic outlook. The Stiftung consists of various officials and a large group of consultants who work with committees of selection. As no salaries are paid to any of these men, the only administrative expenditure is in connection with travel. The undertaking is partly supported by the German Government. During 1930 the Rockefeller Foundation made an appropriation extending over the period 1931-36 for the continuance of the program of the Stiftung.

THE HUMANITIES
STAFF DURING 1930

DIRECTOR

Edward Capps*

CONSULTANT

Geoffrey W. Young

* Retired June 30, 1930.

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, 1930.

The tabulation below summarizes the Prior Obligations and Appropriations Accounts:

Balance in Prior Obligations Account, December 31, 1929	\$35,725,914.02
Less unused balances of appropriations authorizations and funds set aside, allowed to lapse	<u>2,341,890.95</u> \$33,384,023.07
Balance in Appropriations Account, December 31, 1929	\$34,771,916.99
Unused balances of appropriations under prior obligations, allowed to lapse	1,039,834.50
Income and refunds received during the year 1930	<u>12,435,558.06</u> 48,247,309.55
	<u>\$81,631,332.62</u>
Disbursements	\$15,728,638.84
Appropriations and obligations not yet paid	<u>61,176,746.00</u> 76,905,384.84
Balance available for appropriation	<u>\$4,725,947.78</u>

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 meeting of April 16, 1930, a possible further contribution of \$6,000,000 for the same object has 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.

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 listed below:

Balance Sheet.....	Exhibit A
Consolidated Statement of Funds Available for Appropriation and Disbursement.....	Exhibit B
Statement of Appropriations Made During the Year 1930.....	Exhibit C
Statement of 1930 Appropriations and Bal- ances of Prior Year Appropriations, and Payments Thereon During the Year.....	Exhibit D
Statement of International Health Division Designations and Payments.....	Exhibit E

Summary of Prior Obligations Account	Exhibit F
Summary of Appropriations Account	Exhibit G
Statement of Principal Fund	Exhibit H
Statement of Land, Buildings, and Equipment Fund	Exhibit I
Schedule of Securities.....	Exhibit J

EXHIBIT A

BALANCE SHEET—DECEMBER 31, 1930

ASSETS

I. INVESTMENTS OF PRINCIPAL FUNDS

Ledger valuation of all securities.....	\$193,075,249.39
Accrued income on securities paid for from principal.....	206,971.61
	<u>\$193,282,221.00</u>
Less amount belonging to Appropriation Funds (see below)	44,606,242.87
	<u>\$148,675,978.13</u>

II. LAND, BUILDINGS AND EQUIPMENT

In New York.....	\$48,363.56
In Paris.....	68,000.00
In China.....	298,331.95
	<u>\$414,695.51</u>

III. APPROPRIATION FUNDS

Ledger valuation of securities.....	\$44,606,242.87
Secured demand loans.....	13,100,000.00
Cash on deposit.....	124,988.82
Chase National Bank Certificate of Deposit.	5,000,000.00
	<u>\$62,831,231.69</u>
Foreign currency	
The Chase National Bank, (London)	
Sterling.....	400.16
Funds in hands of agents to be accounted for, and sundry accounts receivable.....	\$3,090,166.17
Less accounts payable.....	19,104.24
	<u>3,071,061.93</u>
	<u>\$65,902,693.78</u>
GRAND TOTAL.....	<u>\$214,993,367.42</u>

EXHIBIT A

BALANCE SHEET—DECEMBER 31, 1930
FUNDS AND OBLIGATIONS

I. PRINCIPAL FUNDS

Principal Fund.....	\$142,675,978.13
Reserve for contingent projects.....	6,000,000.00
<hr/>	
	<u>\$148,675,978.13</u>

II. LAND, BUILDINGS AND EQUIPMENT FUND

Appropriations from income.....	<u>\$414,695.51</u>
---------------------------------	---------------------

III. APPROPRIATION FUNDS

Prior Obligations

Unpaid appropriations.....	\$17,047,267.95
Unpaid pledges and authorizations.....	<u>7,140,800.00</u>
<hr/>	

Appropriations Account

Unpaid appropriations.....	\$26,560,678.05
Unpaid pledges and authorizations.....	<u>10,428,000.00</u>
<hr/>	

Total obligations.....	\$61,176,746.00
------------------------	-----------------

Unappropriated balance of Appropriations Account.....	<u>4,725,947.78*</u>
<hr/>	

GRAND TOTAL.....	<u>\$214,993,367.42</u>
------------------	-------------------------

* 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, 1929.....	\$35,725,914.02
Unused balances of appropriations allowed to lapse.....	\$1,039,834.50
Authorizations allowed to lapse.....	1,300,700.00
Funds set aside allowed to lapse.....	1,336.45

APPROPRIATIONS ACCOUNT

Balance, December 31, 1929.....	\$34,771,916.99
Income and refunds received during the year ending December 31, 1930, added to Appropriations Account.....	12,435,558.06
Unused balances of Prior Obligations allowed to lapse.....	1,039,834.50

\$81,631,332.62

DISBURSEMENTS

Universities and other educational institutions

Education

Medical science.....	\$559,417.98
Public health.....	58,672.63
Nursing.....	69,407.96
Social science.....	642,001.17
Natural science.....	Cr. 198,878.00 361,500.49
Departmental development.....	1,368,744.40
Research programs.....	3,103,796.68
Land and buildings.....	<u>\$5,964,663.31</u>

Research institutions and organizations

Medical science education.....	\$2,822.29
General development.....	682,646.59
Research programs.....	607,470.58
Land and buildings.....	<u>726,847.00</u>
Special committees and commissions.....	2,019,786.46
Fellowships and grants in aid.....	175,865.34
Miscellaneous.....	1,180,251.60
Public health.....	679,062.52
General.....	2,769,399.17
Administration.....	2,067,506.76
Balance, December 31, 1930.....	<u>872,103.68</u>
	<u>\$15,728,638.84</u>
	<u>\$65,902,693.78</u>

This balance is available for the following purposes:

Amount due on prior obligations.....	\$24,188,067.95
Amount due on current appropriations.....	<u>36,988,678.05</u>
Amount available for appropriation.....	<u>4,725,947.78</u>
	<u>\$65,902,693.78</u>

EXHIBIT C

APPROPRIATIONS MADE DURING THE YEAR 1930

	THE ROCKEFELLER FOUNDATION
Abraham Lincoln Stiftung, Dresden, Germany.....	\$ 45,000.00
Agricultural club work in Sweden and Finland	89,640.00
Albany Medical College, Albany, New York.....	20,000.00
American Law Institute, Philadelphia, Pennsylvania.....	30,000.00
Association for the Study of Negro Life and History, Washington, D. C.....	22,500.00
Atlanta School of Social Work, Atlanta, Georgia.....	11,500.00
Austrian Institute for Trade Cycle Research, Vienna, Austria.....	20,000.00
Bibliothèque Nationale, Paris, France.....	50,000.00
British Museum, London, England.....	16,500.00
Bulletins and reprints	25,000.00
California Institute of Technology, Pasadena, California.....	500,000.00
Cambridge University, England, Library Commission.....	15,000.00
Canadian National Committee for Mental Hygiene, Toronto, Ontario.....	50,000.00
China Medical Board, Inc., New York City.....	638,000.00
Chulalongkorn University, Bangkok, Siam.....	163,000.00
Columbia University, New York City.....	726,000.00
Committee on the Cost of Medical Care, Washington, D. C.....	125,000.00
Cornell University, New York.....	250,000.00
Developmental aid in the medical and natural sciences in China.....	7,500.00
East Harlem Health Center, Inc., New York City.....	36,500.00
Emergency Employment Committee, New York City.....	500,000.00
<i>Encyclopaedia of the Social Sciences</i> , New York City.....	150,000.00
Fellowships	
Medical sciences.....	200,000.00
Natural sciences.....	150,000.00
Nursing education	50,000.00

Fisk University, Nashville, Tennessee.....	\$ 10,000.00
Great Smoky Mountain Memorial Fund, North Carolina.....	1,000.00
Harvard University, Cambridge, Massachusetts.....	1,960,000.00
Institute for Comparative Research in Human Culture, Oslo, Norway.....	25,000.00
Institute of Economics and History, Copenhagen, Denmark.....	18,000.00
Institute of Hygiene and Public Health, Rome, Italy	786,000.00
Institute of Pacific Relations, Honolulu, Hawaii.....	250,000.00
Institute of Public Health, Sofia, Bulgaria	148,000.00
International Health Division, Rockefeller Foundation.	2,829,214.00
Johns Hopkins University, Baltimore, Maryland.....	487,500.00
Kaiser Wilhelm Gesellschaft, Berlin, Germany	655,000.00
Kaiser Wilhelm Institute of Physical and Electrical Chemistry, Berlin, Germany	7,000.00
League of Nations Fiscal Committee, Geneva, Switzerland	90,000.00
League of Red Cross Societies, Junior Red Cross Division, Paris, France.....	15,000.00
Massachusetts Society for Mental Hygiene, Boston, Massachusetts.....	50,000.00
McGill University, Montreal, Canada.....	110,000.00
National Catholic School of Social Service, Washington, D. C.....	15,010.00
National Institute of Industrial Psychology, London, England.....	20,000.00
National Institute of Public Administration, New York City.....	15,000.00
National Research Council, Washington, D. C.....	228,000.00
National Research Fund, Washington, D. C.....	500,000.00
Oxford University, England, Library Commission	25,000.00
President's Conference on Unemployment, Washington, D. C.....	50,000.00
Research aid fund for the medical and natural sciences, China	10,000.00
Research aid grants	
Medical sciences.....	180,000.00
Humanities.....	25,000.00
Social sciences.....	25,000.00
Research Institute of Experimental Biology, Copenhagen, Denmark.....	27,000.00
Resident fellowships in natural sciences, China	2,000.00
Riverside Church, New York City.....	100,000.00

EXHIBIT C—Continued

Royal Hungarian Joseph Technical University, Budapest, Hungary.....	\$5,000.00
Royal Institution of Great Britain, Davy Faraday Research Laboratory, London.....	112,700.00
School for Public Health and Bedside Nurses, Zagreb, Yugoslavia.....	3,000.00
Shantung Christian University, Tsinan, China.....	20,000.00
Social Science Research Council, Inc., New York City.....	55,000.00
Stanford University, California.....	115,000.00
State Institute of Public Hygiene, State School of Nurses for Public Health and Social Welfare, Prague, Czechoslovakia.....	125,000.00
Travel of individuals and commissions.....	25,000.00
Trudeau Foundation, Trudeau, New York.....	50,000.00
Tuberculosis Study Clinic, Jamaica.....	4,000.00
University of Breslau, Germany.....	50,000.00
University of Bristol, England.....	250,000.00
University of California, Berkeley, California.....	40,000.00
University of Freiburg, Freiburg im Breisgau, Germany.....	25,000.00
University of Leiden, Union Observatory at Johannesburg, South Africa.....	110,000.00
University of Montreal, Canada.....	25,000.00
University of Munich, Germany.....	372,000.00
University of North Carolina Press, Chapel Hill.....	22,500.00
University of Paris, France.....	25,000.00
University of Pennsylvania, Philadelphia, Pennsylvania.....	80,000.00
University of the Philippines, Manila, Philippine Islands.....	150,000.00
University of Rochester, Rochester, New York.....	15,000.00
University of Sydney, Australia.....	500,000.00
University of Toronto, Canada.....	175,000.00
University of Vienna, Austria.....	7,500.00
University of Vienna, Second Institute of Physics, Austria.....	5,000.00
University of Virginia, Charlottesville.....	75,000.00
University of Washington, Seattle, Washington.....	250,000.00
Washington University, St. Louis, Missouri.....	240,000.00

Woods Hole Oceanographic Institution, Massachusetts.....	\$2,500,000.00
Yale University, New Haven, Connecticut.....	25,000 00
Yenching University, Peiping, China	337,500 00
Administration	
1930	74,982 49
1931	896,039 48
	<hr/>
	\$18,420,075 97

TREASURER'S REPORT

EXHIBIT D

1930 APPROPRIATIONS AND BALANCES OF PRIOR YEAR APPROPRIATIONS, AND PAYMENTS THEREON DURING THE YEAR

	APPROPRIA-TIONS	1930 PAYMENTS
UNIVERSITIES AND OTHER EDUCATIONAL INSTITUTIONS		
Medical Science Education		
Albany Medical College		
Organization of extension teaching in medicine (RF 30056).....	\$20,000.00	\$20,000.00
American University of Beirut, Syria		
Maintenance and equipment (CA 21088).....	4,200.00	4,200.00
China Medical Board, Inc., New York City		
General purposes (RF 30002, 30113).....	638,000.00	324,000.00
Salary and expenses of director (RF 29067).....	60,000.00	20,000.00
Chulalongkorn University		
Equipment and supplies for medical, premedical, and nursing schools (ME 21059, 21093, 21148).....	5,076.33	1,817.43
Visiting professors and nurse leaders (RF 28039, 29110, 30063).....	163,753.43	46,840.02
National Central University, Nanking, China		
Medical School, Shanghai. Maintenance (RF 29039).....	130,461.77	22,459.36
National School of Medicine and Pharmacy, Port au Prince, Haiti		
Teaching equipment (ME 21164).....	7,193.15	7,193.15
Peiping Union Medical College, Peiping, China		
Commutation and excess salaries of foreign and visiting professors and travel of visiting professors (ME 28121, 28122, 29038).....	114,121.91	17,750.72
Movable equipment (CM 2614, 2746, CA 28136, ME 21246).....	15,410.55	14,551.02
Accessories (CM 2529, 2783, ME 21247).....	13,152.18	4,162.82
Depreciation, Peiping stores (CM 2760).....	98,874.51	10,591.70
Honor scholarships (ME 21224).....	457.50
São Paulo, Brazil, Faculty of Medicine		
Laboratory aid (ME 21092).....	4,401.89	3,670.65

Shanghai Union Medical College, China			
In recognition of services in completing the education of former Hunan-Yale students (ME 28067)	\$10,610.17	\$3,723.41	
Shantung Christian University School of Medicine Maintenance (ME 21220, 28125, 29119, 30062)	81,012.50	28,675.63	
University of Edinburgh, Scotland			
Toward development of clinical teaching in its Medical School (ME 21085)	4,782.07	4,782.07	
University of Lyon, France, Faculty of Medicine and Pharmacy Interest on endowment (ME 21252, 28139, RF 29153)	12,635.00	
University of Montreal, Faculty of Medicine Development of laboratories (ME 28140, RF 30024)	50,000.00	25,000.00	
Public Health Education			
All-India School of Hygiene and Public Health, Calcutta			
Salary and expenses of director and assistant director (ME 28382)	22,000.00	22,000.00	
University of the Philippines Graduate School of Hygiene and Public Health			
Salary and travel of two visiting professors (ME 28091)	37,091.73	27,672.63	
University of Zagreb, Yugoslavia, Department of Hygiene			
Equipment and maintenance (ME 21198)	4,000.00	4,000.00	
Field training in hygiene (ME 28092)	5,000.00	5,000.00	
Nursing Education			
Belgrade School of Nursing, Yugoslavia			
Resident scholarships and development of teaching facilities (ME 2908)	1,089.37	1,089.37	
D. Odgen Mills Training School for Nurses, Saranac Lake, New York			
Maintenance (ME 21126)	2,000.00	2,000.00	
George Peabody College for Teachers, Nashville Tennessee			
Education in public health nursing (ME 21125)	4,000.00	4,000.00	
Sleeper Davis Hospital, Peiping, China, School of Nursing			
Maintenance (CM 2786)	757.62	289.18	
St. Luke's College of Nursing, Tokyo, Japan			
Educational features (ME 21129)	22,500.00	10,349.38	

EXHIBIT D—Continued

	APPROPRIA-TIONS	1930 PAYMENTS
UNIVERSITIES AND OTHER EDUCATIONAL INSTITUTIONS—Continued		
Nursing Education—Continued		
School for Public Health and Bedside Nurses, Zagreb, Yugoslavia Toward development of teaching facilities in hospitals and dispensaries (RF 30071).	\$3,000.00	\$.....
School for Public Health Nurses, Cluj, Rumania Improvement of teaching facilities (RF 29112).....	10,000.00
State Central School of Nursing, Budapest, Hungary Maintenance (ME 28089)	8,000.00	2,000 00
State Institute of Public Hygiene, Prague, School of Nurses for Public Health and Social Welfare Toward 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)	12,603.21	6,208.18
University of Debreczen, Hungary, School of Nursing, Maintenance (ME 21197)	1,000.00
University of Lyon School of Nursing Health center for the field training of nurses (ME 29027)	38,000.00
Vanderbilt University, Nashville, Tennessee Educational features of the School of Nursing (ME 21123, RF 29121) Nurse training courses (ME 21124)	115,000.00 3,500.00	27,500 00 3,500 00
Warsaw State School of Nursing, Poland Improvement of its teaching service (ME 28128)	5,000 00	5,000.00
Yale University School of Nursing Equipment, supplies, and incidentals (ME 21174)	11,448.16	7,471.85
Social Science Education		
American University of Beirut For work in social science and commercial education (LS 734, 735)	8,343 35	7,400 00
Atlanta School of Social Work, Georgia Toward its general budget (LS 697, RF 30114)	16,938 82	5,438 82

National Catholic School of Social Service, Washington, D. C.			
Toward its budget for instruction (LS 794, RF 30050).....	\$22,500.00	\$15,000.00	
New York School of Social Work, New York City			
Courses for institution workers (RF 29053).....	25,000.00	10,000.00	
Tulane University of Louisiana, New Orleans			
Toward expansion program of its training course in social work (LS 821, 822)....	31,500.00	10,500.00	
University of Chicago, Graduate School of Social Service Administration			
General endowment (LS 708, 809)	1,000,000.00	500,000.00	
Toward current expenses (LS 709)	84,950.00	47,450.00	
Western Reserve University, Cleveland, Ohio			
Toward expansion program of its School of Applied Social Sciences (LS 783, 784)..	55,000.00	23,750.00	
Yenching University, Peiping, China			
Strengthening work of its College of Applied Social Sciences (LS 946).....	120,000.00	22,462.35	
Natural Science Education			
China			
Fukien Christian University, Foochow			
Maintenance of science departments (RF 29030).....	16,500.00	5,559.38	
Ginling College, Nanking			
Maintenance of science departments (CM 2721).....	2,672.72	1,002.50	
Lingnan University, Canton			
Maintenance of science departments (CM 2761).....	15,105.00	9,398.75	
Nankai University, Tientsin			
Maintenance of science departments (CM 2734).....	2,632.58	
National Central University, Nanking			
Maintenance of science departments (CM 2762).....	4,925.13	1,435.76	
Shanghai College			
Maintenance of science departments (CM 2688).....	1,733.75	
Shantung Christian University			
Maintenance of science departments (CM 2729).....	6,994.69	
Tsing Hua University, Peiping			
Maintenance of science departments (CM 2749).....	1,339.19	364.31	

EXHIBIT D—Continued

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UNIVERSITIES AND OTHER EDUCATIONAL INSTITUTIONS—Continued

Natural Science Education—Continued

China—Continued

Yenching University, Peiping

Maintenance of science departments (CM 2717, RF 30020, 30064).....

Toward endowment of science departments (RF 29078, 30019).....

Departmental Development

California Institute of Technology

Toward development of natural sciences, including buildings and equipment (RF 30080).....

Harvard University

Aid to library of the Graduate School of Business Administration (LS 819).....

Buildings, equipment, and endowment of research in astronomy (RF 29130).....

Toward support of School of City Planning (RF 29072).....

Keio Gijuku University, Tokyo, Japan

Salary and expenses of visiting professors in the biological sciences (ME 21168, 28432).....

London School of Economics and Political Science, England

Building extension, library aid, and maintenance (LS 627).....

New York School of Social Work

Toward development of faculty and research program (LS 752).....

Northwestern University, Chicago and Evanston, Illinois

Toward support of the Institute for Research in Land Economics and Public Utilities (RF 29074).....

Stanford University

Toward a library fund for Hopkins Marine Station (RF 30018).....

Syracuse University, Syracuse, New York

Aid to research work of School of Citizenship and Public Affairs (RF 29049, 29050).....

APPROPRIA-TIONS 1930 PAYMENTS

THE ROCKEFELLER FOUNDATION

Tohoku Imperial University, Sendai, Japan			
Salary and expenses of visiting professors in biological sciences (ME 21167).....	\$47,904.83	\$9,006.00	
University of Bristol			
Toward endowment for the Henry Herbert Wills Physics Laboratory (RF 30083). .	250,000.00	
University of California			
Toward a program for graduate training and research in public administration (RF 29108).....	182,000.00	16,250.00	
University of Chicago			
Assistance in connection with research program in the social sciences (LS 813)	115,512.72	39,905.76	
University of Minnesota, Minneapolis			
Toward establishment of a laboratory for rock analysis (RF 29058)	12,000.00	3,000.00	
University of North Carolina, Chapel Hill			
Research professor in economic theory (LS 974).....	20,000.00	
University of Paris			
Toward support of the department of parasitology (RF 30065).....	25,000.00	
University of Washington			
Toward chartering and maintaining boat for oceanographic work (RF 30079).....	50,000.00	
Yale University Institute of Human Relations			
Development of psychiatry and care of individuals under observation (RF 29002) ..	950,000.00	100,000.00	
Maintenance of an anthropoid breeding station (RF 29090).....	372,500.00	32,500.00	
Research Programs			
Alaska Agricultural College and School of Mines, Fairbanks, Alaska			
Study of the aurora (RF 29118).....	10,000.00	
Columbia University			
Research in medical mycology (RF 29027)	50,000.00	25,089.99	
Research in the social sciences (LS 574, 575, 678, 949, 950, RF 30036, 30037)	857,201.81	139,427.13	
Research and field work with Greenwich House (RF 29070)	12,500.00	5,000.00	
Study of familial law (LS 917).....	1,514.05	
Study of compensation for automobile accidents (RF 29071, 30091)	85,000.00	34,709.55	
Studies on nutrition in Porto Rico (RF 30089).....	36,000.00	

EXHIBIT D—Continued

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UNIVERSITIES AND OTHER EDUCATIONAL INSTITUTIONS—Continued

Research Programs—Continued

Cornell University

For studies on the rôle of the internal secreting glands in relation to growth and inheritance (RF 30006).....

\$250,000.00 \$12,500.00

Harvard University

Toward its survey of crime and criminal justice (LS 890, RF 29117, 30077)....

20,938.56 10,938.56

Research in the field of business (LS 807).....

64,172.75 26,916.36

Work in industrial psychology (LS 684).....

20,047.83 9,075.50

Research in industrial hazards (RF 30031).....

875,000.00 14,226.87

Research in international law (RF 29048).....

60,000.00 5,457.59

Research in economics (RF 29068).....

135,000.00 21,825.82

Research in physiology and physical chemistry (RF 30028).....

175,000.00

Studies in kala-azar (RF 29043).....

2,250.00 1,756.00

Harvard University and Radcliffe College

Research in the field of international relations (LS 485, 993).....

514,156.75 51,657.23

Johns Hopkins University, The

Biological research (RF 29155, 30005).....

412,000.00 49,500.00

Fluid research fund in the humanities (RF 30035).....

100,000.00 10,000.00

Research and graduate work in its department of chemistry (RF 29101).....

30,000.00

Study of obstetrical records (RF 29041).....

35,600.00 6,200.00

London School of Economics and Political Science, England

Research Funds (LS 994).....

80,000.00 19,438.75

McGill University

Development of research in the social sciences (RF 30107).....

110,000.00

Development of research in surgery (RF 29003).....

70,000.00 25,000.00

Peiping Union Medical College

Field study in anthropology (RF 28035).....

1,569.92 Cr. 353.16

THE
ROCKEFELLER
FOUNDATION

Field studies in kala-azar (CM 2733).....	\$1,392.32	\$57.20
Human paleontological research in Asia (RF 29047).....	73,299.03	21,617.38
Princeton University Support of research work of the department of geology (RF 29079).....	100,000.00
Royal Hungarian Joseph Technical University Toward support of investigations of problems in the chemistry of carbohydrates (RF 30074).....	5,000.00
Stanford University For development of program in the social sciences (LS 786, 787).....	132,500.00	57,500.00
Fluid research fund in the medical sciences (RF 30070).....	95,000.00	10,000.00
University of California Study of chemical aspects of vitamins and hormones (RF 29099).....	50,000.00	20,000.00
University of Chicago Aid to social science facilities (LS 810).....	114,308.16	60,736.20
Program of local community research (LS 811, 812).....	222,516.60	70,905.24
Publication of volumes on comparative civic education (LS 959).....	5,807.44	2,499.75
Study of methods of civic education (LS 624).....	7,548.39	3,956.51
Toward research program of its department of anthropology (RF 29069).....	67,500.00	15,000.00
Determination of velocity of light in vacuo (RF 29031).....	15,000.00	9,537.54
Research work in the biological sciences (RF 29083).....	135,000.00	30,000.00
Studies in comparative philology (RF 29135).....	50,000.00
University of Denver, Colorado Toward support of Bureau of Statistical Research (LS 610).....	17,500.00	8,955.51
University of Freiburg im Breisgau Equipment for research work in physical chemistry (RF 30093).....	25,000.00
University of Hawaii, Honolulu Sociological research (RF 29051).....	25,000.00	15,000.00
Study of biological, mental, and social conditions of people of Hawaii (ME 21231).....	40,000.00	20,000.00
University of Leiden For purchase and endowment of a photographic telescope (RF 30021).....	110,000.00

EXHIBIT D—Continued

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UNIVERSITIES AND OTHER EDUCATIONAL INSTITUTIONS—Continued

Research Programs—Continued

	APPROPRIA-TIONS	1930 PAYMENTS	THE ROCKEFELLER FOUNDATION
University of Liverpool, England	\$10,000.00	\$10,000.00	
Social survey of the Liverpool district (LS 987).....			
University of North Carolina	95,000.00	45,000.00	
Program in the social sciences (LS 792).....	10,000.00	
Toward research in the natural sciences (RF 29114).....			
University of Pennsylvania	80,000.00	
Fluid research fund (30094).....			
Development of work in the department of industrial research in the Wharton School of Finance and Commerce (LS 839).....	60,000.00	50,000.00	
Study of living tissues (RF 29064).....	75,000.00	8,945 40	
University of Rochester School of Medicine and Dentistry			
Development of a habit training clinic in the department of psychiatry (RF 29063).....	118,125.00	23,250.00	
Fluid research fund (RF 29026).....	85,000.00	20,000.00	
Special research in dental pathology (RF 29040, 29123).....	27,700.00	4,841 06	
Studies in the effects of heat as produced by radiation (RF 30090).....	15,000.00	
University of Stockholm, Sweden			
Aid to research in the social sciences (LS 614).....	11,250.00	11,250.00	
University of Texas, Austin			
Development of program in the social sciences (LS 790, 791)	135,000.00	50,000.00	
University of Toronto			
For research in its department of pediatrics (RF 29028)	40,000.00	16,000.00	
University of Vermont, Burlington			
Survey of rural life in Vermont (LS 942).....	57,984 13	31,318.35	
University of Vienna			
Toward purchase of a liquid air machine (RF 30072)	7,500.00	

Research on disintegration of atoms and purchase of spectrograph for the Second Institute of Physics (RF 30073).....	\$5,000.00	\$.....
University of Virginia Toward program of research in the social sciences (LS 707, RF 30106).....	177,081.93	65,451.37
Washington University Fluid research fund (RF 30038).....	240,000.00	40,000.00
Yale University Assistance for investigations to be conducted by the School of Law (LS 900).....	33,000.00
Research in psychology, child development, and social science (LS 710, RF 29008).....	1,465,015.28	150,000.00
Experiments in photographic work with children (LS 711).....	15,751.28
School of Medicine Fluid research fund (RF 29147).....	147,500.00
Special research in dental pathology (CA 28383, RF 29120).....	41,056.70	28,556.70
Land and Buildings		
All-India School of Hygiene and Public Health Buildings and equipment (ME 28381).....	254,000.00	254,000.00
American University of Beirut Buildings and equipment for its Medical School (ME 21244).....	130,000.00	130,000.00
Chulalongkorn University Addition to the pathology building and a building for the School of Nursing (RF 30023).....	138,000.00
Peiping Union Medical College Buildings and fixed equipment (CM 2646, 2782, ME 21248, 21245).....	16,299.40	14,740.05
Fundamental repairs, alterations, additions, and improvements to buildings and equipment (ME 21172, 21249).....	4,873.63	4,873.63
Shanghai Medical School Purchase of land (CM 2269).....	2,031.65
Shantung Christian University Equipment for science building (CM 2727).....	4,777.38
Loss on exchange on remittances for School of Medicine buildings (CM 2693).....	30,000.00

EXHIBIT D—Continued

UNIVERSITIES AND OTHER EDUCATIONAL INSTITUTIONS—Continued

Land and Buildings—Continued

	APPROPRIA-TIONS	1930 PAYMENTS
State Central School of Nursing, Budapest, Hungary Buildings and equipment (ME 28088)	\$50,000.00	\$50,000.00
State Institute of Public Hygiene, Prague, Czechoslovakia Building and equipment for school of nurses for public health and social welfare (RF 30082)	100,000.00
Tsing Hua University Toward biology building and equipment (RF 29102)	41,250.00	29,939.79
University of Breslau, Germany Toward building a neurological laboratory (RF 30081)	50,000.00
University of California Building fund for increased laboratory facilities at Scripps Institution of Oceanography (RF 30017)	40,000.00
University of Chicago Toward construction, equipment, and endowment of maintenance of a building for the social sciences (LS 808)	780,748.00	667,951.03
University of Debreczen School of Nursing Buildings, equipment, and furnishings (ME 21195, 21196)	4.82
University of Edinburgh Reconstruction of Medical School building (RF 29065)	1,091.87
University of Lyon Toward land and building for Faculty of Medicine and Pharmacy (ME 21242, 28138, 29152)	922,536.32	496,171.96
University of Munich Building and equipment of the Institutes of Zoology and Physical Chemistry (RF 30022)	372,000.00

University of Nancy, France, Institute of Hygiene Building improvements (ME 28019).....	\$20,341.09	\$12,536.64	
University of the Philippines Toward enlarging the building of its School of Hygiene and Public Health (RF 30055).....	150,000.00	2,481.25	
University of Sydney Toward building of clinical laboratory for the Medical School (RF 30011).....	500,000.00	
University of Washington Building and equipment of oceanographic laboratory (RF 30079).....	200,000.00	
Yale University Building and equipment of Institute of Human Relations (RF 29001).....	1,350,000.00	1,350,000.00	TREASURER'S REPORT
Establishment of an anthropoid breeding station (RF 29009, 29090, 30001).....	130,000.00	91,102.33	
RESEARCH INSTITUTIONS AND ORGANIZATIONS			
Medical Science Education			
China Medical Association Toward general budget (CM 2770).....	15,241.83	2,822.29	
Social Science Education			
Laboratory of Anthropology, Santa Fe, New Mexico Support of field training course in anthropology (RF 29116).....	60,000.00	
Social Science Research Council, Inc. For instruction in agricultural economics (RF 30104).....	40,000.00	
General Education			
Canadian National Committee for Mental Hygiene, Toronto Toward development of training centers for advanced students (RF 30088).....	50,000.00	
General Development			
American Historical Association, Washington, D. C. Support of the International Committee of Historical Sciences (LS 564, 951) . . .	34,411.85	8,923.92	
American Institute of Cooperation, Washington, D. C. Toward its general budget (LS 901)	965.87	963.00	
American Schools of Oriental Research, Baghdad and Jerusalem Toward current expenses (RF 29134).....	250,000.00	35,000.00	281
Endowment (RF 29134)	250,000.00	

EXHIBIT D—*Continued*RESEARCH INSTITUTIONS AND ORGANIZATIONS—*Continued*General Development—*Continued*

	APPROPRIA-	1930
	TIONS	PAYMENTS
Australian National Research Council, Sydney Visiting professors (ME 21203).....	\$31,584.72	\$1,777.44
Bermuda Biological Station for Research, Inc. Toward development of station (RF 29129).....	245,000.00	243,265.63
Brookings Institution, Inc., Washington, D. C. Toward its general endowment (LS 929).....	2,000,000.00
Institute for Comparative Research in Human Culture Toward its general budget (LS 1006, RF 30086).....	150,000.00	75,000.00
Economic Foundation, New York City Support of National Bureau of Economic Research (LS 930).....	45,000.00	1,702.33
Institute of Economics and History, Copenhagen, Denmark Toward its general budget (LS 947, RF 30085).....	125,000.00	50,000.00
Institute of International Affairs, Hamburg, Germany To provide research assistance and facilities (LS 615).....	30,000.00	6,000.00
International Institute for the Study of African Languages and Cultures, London Toward its general budget (LS 740).....	8,000.00	8,000.00
Marine biological stations, France Support of stations at Roscoff and Banyuls (RF 29021).....	5,000.00	5,000.00
National Bureau of Economic Research, New York City Toward its general budget (RF 29073).....	12,258.32	7,861.64
National Institute of Industrial Psychology, London Toward its general budget (LS 612).....	337,500.00	56,998.47
National Medical Association of China, Shanghai Toward current expenses (ME 28068).....	7,500.00	7,500.00
	4,011.15

Postgraduate Institute of International Studies, Department of Public Instruction of the Canton of Geneva, Switzerland			
Maintenance (LS 724, RF 29136)	\$891,502 88	\$85,000 00	
Research Institute of Experimental Biology, Copenhagen			
Toward salary and expenses of director (RF 30066)	27,000 00	
Social Science Research Council, Inc.			
Toward its general budget (LS 626, 875)	460,000 00	55,000.00	
Woods Hole Oceanographic Institution			
Endowment (RF 30003)	1,000,000 00		
Toward current expenses (RF 30004)	500,000 00	34,654 16	
Research Programs			TREASURER'S REPORT
American Council of Learned Societies, Washington, D. C.			
Researches in paleography (RF 29133)	75,000 00	6,201 53	
American Law Institute			
Toward preparation of a code of laws and court rules relating to criminal procedure (LS 889, RF 30029)	47,898 90	26,259 40	
Association of American Medical Colleges, Chicago			
Study of medical curriculum in America (ME 21101)	10,000 00	10,000.00	
Association for the Study of Negro Life and History			
Toward research studies and publication (RF 30053)	22,500 00	1,351 00	
Australian National Research Council			
Anthropological studies (DS 21111, 21229)	41,302 20	9,529 29	
Austrian Institute of Trade Cycle Research, Vienna			
Research Program (RF 30087)	20,000 00		
Bernice P. Bishop Museum, Honolulu			
Research in Polynesian anthropology (ME 21116)	22,600 00	10,000.00	
Canadian National Committee for Mental Hygiene			
Toward program of mental hygiene and social science research in Canadian uni- versities (LS 943)	112,800 00	25,234 38	
Cities Census Committee, Inc., New York City			
Toward its general budget (RF 29052)	5,000.00	5,000.00	283

EXHIBIT D—Continued

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THE ROCKEFELLER FOUNDATION

RESEARCH INSTITUTIONS AND ORGANIZATIONS—Continued

Research Programs—Continued

	APPROPRIA- TIONS	1930 PAYMENTS
Council on Foreign Relations, New York City	\$90,000.00	\$30,000.00
Research on American foreign policy (LS 850).....	9,034.18	9,034.18
Detroit Bureau of Governmental Research, Inc.		
Preparation of uniform system of crime accounting (LS 864).....	250,000.00	13,455.17
Economic Foundation, New York City		
International study of the history of prices (RF 29138).....	10,000.00	5,000.00
Field Museum of Natural History, Chicago		
Aid in securing photographs of types of botanical specimens (RF 29006).....	50,632.89	11,409.96
Institute for Social and Political Sciences, University of Heidelberg, Germany		
Research in the social sciences (LS 984).....	35,000.00
Institute for Comparative Research in Human Culture		
Toward expenses of expedition to Kola Peninsula (LS 721).....	325,000.00	33,499.70
Institute of Pacific Relations		
Toward program of research in the social sciences (LS 995, 996, RF 30084).....	7,000.00
Kaiser Wilhelm Institute of Physical Chemistry and Electrical Chemistry		
Special scientific apparatus (RF 30075).....	43,827.86	24,063.08
Massachusetts Department of Mental Diseases, Boston		
Study of the insane and the mentally defective (LS 957).....	70,000.00	19,960.92
Massachusetts Society for Mental Hygiene, Boston		
Work in field of mental disorders (LS 944, RF 30032).....	5,179.22	1,517.98
National Committee for Mental Hygiene, New York City		
Surveys in the care and treatment of mental diseases (ME 21105).....	20,000.00
National Institute of Industrial Psychology, London		
Research program of institute (RF 30033).....	5,573.15	440.00
National Research Council		
Study of physical causes of deafness (LS 988).....		

National Research Fund			
For scientific research (RF 30057).....	\$500,000.00	\$100,000.00	
Notgemeinschaft der Deutschen Wissenschaft, Berlin			
Anthropological study of the German population (RF 29137).....	125,000.00	
Research in the social sciences (LS 971).....	10,000.00	4,881.05	
Royal Institution of Great Britain			
Endowment and maintenance of the Davy Faraday Research Laboratory (RF 30026)	112,700.00	4,867.50	
Smithsonian Institution, Washington, D. C.			
Research in radiation (RF 29022).....	1,500.00	1,200.00	
Social Science Research Council, Inc.			
Toward research work (LS 876).....	584,843.60	159,696.86	
Toward project budget (LS 751).....	16,094.52	7,536.58	
Projects in the field of human migration (LS 670).....	18.40	18.40	
Conferences of social scientists (LS 985, RF 30049).....	30,000.00	9,813.60	
Trudeau Foundation			
Research in tuberculosis (RF 30034).....	50,000.00	7,500.00	
Welfare Council of New York City			
Support of its Research Bureau (LS 736, RF 29075).....	150,000.00	70,000.00	
Land and Buildings			
Kaiser Wilhelm Gesellschaft			
Land, buildings, and equipment of Institutes of Cell Physiology and Physics (RF 30027).....	655,000.00	276,747.00	
Building program in connection with Institute for Brain Research (29062).....	1,314.75	
Woods Hole Oceanographic Institution			
Building and other construction, boats and equipment (RF 30003).....	1,000,000.00	450,100.00	
SPECIAL COMMITTEES AND COMMISSIONS			
Cambridge University			
Expenses of commission visiting libraries in Europe, United States, and Canada (RF 30048).....	15,000.00	4,279.17	
Committee on Cost of Medical Care, Washington, D. C.			
General budget (CA 28380, RF 30052).....	165,000.00	55,000.00	285

EXHIBIT D—*Continued*

	APPROPRIA-TIONS	1930 PAYMENTS
SPECIAL COMMITTEES AND COMMISSIONS—<i>Continued</i>		
Committee on Grading of Nursing Schools, New York City		
General expenses (ME 21226)	\$10,000.00	\$5,000.00
National Institute of Public Administration, New York		
Commission on Old Age Security (RF 30092).....	15,000.00	..
Oxford University		
Commission to visit libraries in Europe, United States, and Canada (RF 30016)	25,000.00	5,917.97
President's Conference on Unemployment, Washington, D. C.		
Study of economic changes (LS 881, RF 30051).....	86,002.45	6,592.86
President's Research Committee on Social Trends, Washington, D. C.		
Research on recent social changes (RF 29154)	560,000.00	99,075.34
FELLOWSHIPS AND GRANTS IN AID		
American Council of Learned Societies, Washington, D. C.		
Fellowships in the field of humanistic studies (RF 29084)	90,000.00	11,220.26
Grants in aid, support of projects and administration (RF 29085)	275,846.44	50,088.07
Researches in the humanistic sciences by American scholars (LS 972)	10,000.00	5,000.00
American School of Classical Studies, Athens, Greece		
Fellowships in archeology in connection with the excavation of the Athenian Agora (RF 29019)	10,600.00
Australian National Research Council		
Fellowships in anthropology (ME 21184)	9,166.20	7,823.09
Developmental Aid		
China		
Medical and natural sciences (RF 30040)	7,500.00	475.56
Europe		
Constructive program of aid to medical education without capital expenditure (ME 28369)	78,022.50	19,594.41

Fellowships Administered by Foundation		\$77,000.00	\$300.00
Humanities (RF 29105, 29142)			
Medical sciences			
Foreign fellowships (ME 28375, 29066, 29140, RF 30099)	641,411.12	142,546.61	
Natural sciences (ME 28151, RF 29077, 29100, 30039, 30042)	529,531.28	89,378.35	
Nursing (ME 28376, 29149, RF 30100)	153,107.44	41,815.53	
Social sciences (LS 862, 964, 997, RF 29141)	610,579.60	123,633.40	
Hungarian Scholarship Council, Budapest, Hungary			
Foreign scholarships in medicine (RF 29111)	18,000.00	1,658.25	
Laboratory Aid. Europe			
Equipment and supplies for medical departments and returned foreign fellows in the medical sciences (ME 21206)	7,418.15	104.34	
Medical Research Council, Great Britain			
Fellowships in the medical sciences (ME 21046, 28126)	36,273.24	12,357.69	
National Committee for Mental Hygiene, New York City			
Fellowships in mental hygiene (ME 21107, 29148)	27,262.40	13,342.76	
National Research Council			
Fellowships			
Biological sciences (RF 29004, 29005, 29132)	584,748.18	112,855.09	
Medical sciences (ME 21098, 21232, 29060)	172,982.53	50,069.14	
Physical sciences (RF 21234, 29131)	396,718.68	131,822.13	
Research aid fund (RF 29061, 30105)	175,000.00	75,000.00	
Notgemeinschaft der Deutschen Wissenschaft			
Fellowships in the medical sciences (ME 21181, 28127)	49,612.77	12,678.03	
Peiping Union Medical College			
Foreign fellowships for staff (RF 28123, 29128)	88,750.29	12,282.63	
Fellowships in Peiping Union Medical College for residents of China, Japan, and the Far East (RF 28124, 29128)	40,920.27	6,742.10	
Research Aid Funds			
Humanities (RF 30008)	25,000.00	6,211.75	
China			
Medical and natural sciences (RF 28370, 29046, 29150, 30041)	24,299.93	8,113.83	

EXHIBIT D—Continued

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THE ROCKEFELLER FOUNDATION

FELLOWSHIPS AND GRANTS IN AID—Continued

Research Aid Funds—Continued

Europe

	APPROPRIA-	1930
	TIONS	PAYMENTS
Medical sciences (RF 29024, 29127, 30097).....	\$377,570.00	\$96,279.98
Natural sciences (RF 29025).....	23,435.10	7,276.68
Social sciences (RF 30007).....	25,000.00	2,972.20

Social Science Research Council

Graduate fellowships in agricultural economics and rural sociology (LS 910).....	120,435.05	30,685.72
Fellowships in the social sciences (LS 500, RF 29139).....	350,480.29	90,880.53
Travel of individuals and commissions (ME 28371, RF 29095, 30101).....	55,994.83	14,732.16
Travel of nurse leaders (ME 21210, 28104, 28373, 29045).....	22,093.92	2,311.31

MISCELLANEOUS

Abraham Lincoln Stiftung

Continuance of program in humanistic studies (RF 30096).....	45,000.00
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American Library in Paris, France

Toward support of a reference service on international affairs (LS 872).....	6,250.00	6,250.00
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American Psychological Association, Princeton, New Jersey

Psychological Abstracts (LS 694).....	49,027.84	6,182.39
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American Type Culture Collection, Chicago, Illinois

Toward general budget (RF 29057).....	10,000.00	10,000.00
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Bibliographical Society of America, Buffalo, New York

Toward expenses in securing subscriptions to the Catalogue of Printed Books of the British Museum (RF 29088).....	1,000.00
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Bibliothèque Nationale, Paris

Collections of serial publications (RF 30046).....	50,000.00	4,992.52
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British Museum

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
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Toward additional service in connection with the new edition of the Catalogue of Printed Books (RF 29087).....	\$9,400.00	\$.....
Bulletins and reprints (RF 29124, 30098).....	50,000.00	20,089.77
<i>Encyclopaedia of the Social Sciences</i>		
Toward expenses of production and distribution (LS 814, RF 29059, 30012).....	216,578.41	155,647.22
Hospital and clinic service		
Research and teaching (ME 21211, 29122).....	14,086.71	8,166.85
Hospitals in China		
American Baptist Foreign Mission Society, Ningpo. Maintenance (CM 276).....	8,250.00	8,250.00
American Board of Commissioners for Foreign Missions		
Tehchow. Maintenance (CM 2784).....	4,747.47	1,704.13
Board of Foreign Missions of the Methodist Episcopal Church		
Wuhu. Maintenance (CM 2718).....	3,997.89	1,884.00
Board of Foreign Missions of the Presbyterian Church in the United States		
Changteh. Maintenance (CM 2781).....	8,617.77	1,300.00
Chefoo. Maintenance (CM 2603, 2780).....	7,000.00	2,500.00
Hwaiyuen. Maintenance (CM 2699).....	3,230.92	872.73
Paotungfu. Maintenance (CM 2572, 2779).....	6,000.00	2,500.00
Board of Missions of the Methodist Episcopal Church, South		
Soochow. Maintenance (CM 2764).....	8,760.00
Church of Scotland Foreign Mission Committee. Ichang		
Maintenance (CM 2719).....	1,175.00	425.00
Domestic and Foreign Missionary Society of the Protestant Episcopal Church in the United States		
Anking. Maintenance (CM 2701).....	1,000.00
Foreign Mission Board of the Southern Baptist Convention		
Yangchow. Maintenance (CM 2765).....	490.00	143.75
University of Nanking Hospital. Maintenance (CM 2763).....	12,545.64	3,217.50
United Christian Missionary Society		
Luchowfu. Maintenance (CM 2785).....	11,000.00	6,627.50
Nantungchow. Maintenance (CM 2218).....	6,392.56

EXHIBIT D—Continued

	APPROPRIA-	1930
	TIONS	PAYMENTS
MISCELLANEOUS—Continued		
Humanistic studies in Europe (LS 919, RF 29032)	\$20,127.14	\$11,126.39
Laboratory course in physiology		
Purchase and distribution of Spanish edition of text-book (ME 28093)	1,000.00	1,000.00
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
Library of the Society of Physicians, Vienna, Austria		
Medical literature (ME 21153)	632.94	101.49
Missions institutions and medical schools in China		
Loss in exchange on Foundation appropriations (CM 2503)	15,000.00	
National Research Council		
<i>Biological Abstracts</i> (ME 21110, 21228, RF 30108)	247,390.20	81,515.36
Conference of its Division of Anthropology and Psychology (LS 952)	3,989.54	915.11
Toward work of the Committee on Child Development (LS 656)	5,101.08	5,091.97
New York Academy of Medicine, New York City		
Endowment (ME 29151)	250,000.00	250,000.00
New York City Unemployment Relief		
Emergency Employment Committee (RF 30095)	500,000.00
Social Science Research Council, Inc.		
<i>Social Science Abstracts</i> (LS 877)	425,364.70	79,308.84
Society of the Friends of the Bibliothèque Nationale, Paris		
Toward expenses of printing its General Catalogue (RF 29089)	11,000.00	1,000.00
United Hospital Fund, New York City		
For transferring to permanent agencies activities of the Committee on Dispensary Development (ME 21227)	8,250.00	8,250.00
University of Oxford		
Preliminary studies in connection with the Bodleian Library (RF 29097)	25,000.00

PUBLIC HEALTH

International Health Division, Rockefeller Foundation			
For work in prior years			
(See Exhibit E)	\$2,564,268.35*		
For work in 1930			
(See Exhibit E)	2,930,820.00		
 Revolving fund			
To provide working capital for the International Health Division (RF 29093)	200,000.00		
For work in 1931 (RF 30102)	2,829,214.00		
Central Institute of Hygiene of the Turkish Republic, Angora			
Construction, installation, and equipment of a Service School of Hygiene (RF 29010)	200,000.00	100,000.00	
Development of child health measures in county health programs in cooperation with			
United States Public Health Service (RF 29107)	100,000.00	61,213.04	
Institute of Public Health, Sofia, Bulgaria			
Land, building, and equipment (RF 30059)	148,000.00	89,710.69	
Institute of Hygiene and Public Health, Rome, Italy			
Buildings and equipment (RF 30025)	786,000.00	52,368.75	
Jamaica Tuberculosis Study Clinic			
For construction of a wing for x-ray work (RF 30060)	4,000.00		
League of Nations, Health Organization. Epidemiological intelligence, public health			
statistics, public health documentation, international interchange of public health per-			
sonnel (RF 29092)	723,975.00		

GENERAL†

Agricultural club work			
Sweden and Finland. Administration (RF 29080, 30045)	21,815.97	13,599.73	
Sweden (RF 29081, 30043)	49,573.26	17,574.13	
Finland (RF 29082, 30044)	63,412.86	20,567.79	

* Of this total appropriation \$2,472,729.30 has been designated by the International Health Division, the balance \$91,539.05 having been allowed to lapse as of January 1, 1930.

† 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

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GENERAL—Continued

	APPROPRIA-TIONS	1930 PAYMENTS	THE ROCKEFELLER FOUNDATION
American Association for Adult Education, New York City Toward budget for the National Council of Parent Education (LS 927, 928)	\$36,012.96	\$18,597.26	
American Association of Museums, Washington, D. C. Survey of educational work (LS 913)	1,923.62	766.14	
Trailside museums in national parks (LS 912)	89,700.87	53,735.62	
American Association of University Women, Washington, D. C. Publication fund (LS 664)	657.13	213.97	
Work of educational secretary (LS 663)	12,500.00	7,500.00	
American Home Economics Association, Washington, D. C. Child study and parent education center (LS 823)	36,363.99	21,025.65	
Maintenance of consulting service in field of child study and child care (LS 621)	6,573.91	6,573.91	
American Library Association, Chicago, Illinois Publication of list of foreign government serials (LS 756)	11,915.14	8,958.11	
American Library in Paris Toward general budget (LS 871, RF 29098)	40,778.23	23,278.23	
Boy Scouts of America, New York City Development of younger boy program (LS 858)	8,376.33	8,376.33	
Work among special racial groups (LS 970)	25,919.48	14,202.93	
Revolving fund for benefit of magazine, <i>Boys' Life</i> (LS 560)	49,001.00	1.00	
Child Study Association of America, New York City Toward support of extension division (LS 779, 780)	30,000.00	30,000.00	
Child study fellowship program (LS 918)	17,961.49	11,476.18	
Cleveland Foundation, Cleveland, Ohio Child study and parental education center (LS 1007, 1008)	21,000.00	9,000.00	
Commission on Interracial Cooperation, Atlanta, Georgia Toward general budget (LS 999)	373,383.70	46,660.70	

Conference expenses (LS 854)	\$3,151.53	\$1,451.81	
Connecticut College for Women, New London			
Study of ethnic factors of community life (RF 29104)	8,700.00	6,177.35	
Coordinating Council on Nature Activities, New York City			
Toward its general budget (LS 805)	5,486.03	5,243.34	
Cornell University, New York			
Work in child study and parent education (LS 527, 654, 1009)	8,750.00	8,750.00	
East Harlem Health Center, Inc.			
Toward its general budget (LS 937)	11,900.00	7,075.00	
Toward nursing and health demonstration (RF 29125, 30068)	69,958.34	36,500.00	
Fisk University, Nashville, Tennessee			
Teaching and equipment in field of the social sciences (LS 826)	128,800.00	74,069.56	
Research work in the social sciences (LS 827, 828, RF 30061)	65,700.00	38,033.20	
Foreign Language Information Service, New York City			
Toward its general budget (LS 497)	26,023.91	4,488.29	
Georgia State College of Agriculture and Mechanic Arts, Athens, Georgia			
Child study and parent education center (LS 856, 857)	15,407.35	8,125.00	
Girl Scouts, Inc., New York City			
Toward its general budget (LS 671, 925)	4,500.00	3,000.00	
Research Bureau (LS 842)	13,125.00	
Great Smoky Mountains National Park. Memorial Fund			
Expense of Chase National Bank in administering funds (RF 30103, LS 922)	3,500.00	2,500.00	
Harvard University			
Purchase of Beyer collection of Philippiniana (LS 638)	50,000.00	
Howard University, Washington, D. C.			
For subscriptions to publications (LS 899)	625.65	450.08	
Library material in field of social science (LS 898)	4,882.47	1,402.48	
Aid to law library (LS 896, 897)	7,600.34	5,199.52	
Institute of International Education, New York City			
Toward its general budget (LS 911)	194,000.00	24,000.00	

TREASURER'S REPORT

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EXHIBIT D—*Continued***GENERAL—Continued**

	APPROPRIA-TIONS	1930 PAYMENTS
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 Toward its general budget (LS 893).....	16,703.70	9,033.00
Joint Vocational Service, Inc., New York City (for social workers and public health nurses) Toward administrative expenses (LS 742).....	10,800.00	5,400.00
League of Red Cross Societies, Paris Toward budget of Junior Red Cross Division (LS 895, RF 30067).....	26,089.79	10,000.00
McGill University Research facilities and assistance in study of child life (LS 532).....	7,466.56	7,462.42
Mills College, Oakland, California Work in child study and parent education (LS 863).....	3,050.00	3,050.00
Monmouth County (New Jersey) Organization for Social Service, Inc. Toward its general budget (LS 687).....	11,949.30	5,241.36
National Social Work Council, New York City Toward its general budget (LS 397).....	1,768.11	1,768.11
National Society of Penal Information, Inc., New York City Survey of medical conditions in federal and state prisons (LS 969).....	5,620.55	4,120.59
National Urban League, New York City Toward its general budget (LS 1005).....	32,575.84	17,575.84
Neighborhood Teacher Association, New York City Toward its general budget (LS 938).....	19,380.50	11,677.75
New York Society for the Experimental Study of Education, New York City Research in primary adult education (LS 939).....	2,402.50	2,035.00

North Carolina State Board of Charities and Public Welfare, Raleigh			
Study of school attendance in North Carolina (LS 892)	\$5,177.55	\$3,638.85	
Toward program of negro welfare work (LS 820)	3,900.00	3,900.00	
Peiping Union Medical College			
Allowance for widow of Dr. C. W. Young (RF 29034)	19,675.00	1,476.33	
People's Institute, New York City			
Toward its general budget (LS 761)	5,000.00	. . .	
Playground and Recreation Association of America, Inc., New York City			
Toward its general budget (LS 1000)	500,000.00	100,000.00	
For recreational adviser to city administration of New York (LS 668)	8,570.20	4,290.69	
Study of community music (LS 771)	18,713.64	10,766.52	
Toward program of introducing music into small towns (LS 915)	4,980.19	3,106.28	
Investigations in recreation and allied activities (LS 655)	5,846.85	
Regents of the University of the State of New York, Albany			
Work in child study and parent education (LS 902)	50,000.00	20,000.00	
Riverside Church, New York City			
For memorial in name of Laura Spelman Rockefeller (LS 977)	1,000,000.00	. . .	
Interest on appropriation (LS 977) for year 1929 and 1930 (RF 30013, 30014)	100,000.00	100,000.00	
Russian Student Fund, Inc., New York City			
Loan fund for Russian students (LS 743, 1002)	3,141.50	3,141.50	
Russian Zemstvos and Towns Relief Committee			
Toward general program of relief, Paris, France (LS 804, RF 29054)	25,000.00	15,000.00	
Scholarships in the social sciences and social work for American negroes (LS 965)	12,730.00	1,663.00	
Society of the New York Hospital			
Erection and maintenance of building for Lying-In Hospital (LS 966)	2,000,000.00	556,000.00	
State Board of Public Welfare of the Commonwealth of Virginia			
Toward work of its Division of County and City Organization (LS 840)	15,000.00	7,500.00	
State Charities Aid Association, New York			
For stabilizing its county child welfare service (LS 926)	24,639.28	14,770.56	
For study of mental disease in New York State (LS 958)	37,581.37	21,432.18	
State of California, Department of Education, Sacramento			
Work in child study and parent education (LS 986)	15,000.00	7,500.00	

EXHIBIT D—Continued

	APPROPRIA-	1930
	TIONS	PAYMENTS
GENERAL—Continued		
State University of Iowa, Iowa City		
Work in child study and parent education (LS 904, 905, 907, 931, 932)	\$742,968.95	\$123,833.22
Teachers College, Columbia University		
Maintenance of Child Development Institute (LS 998)	425,000.00	100,000.00
University of California		
Maintenance of Institute of Child Welfare (LS 829, 830)	204,945.84	52,566.22
University of Chicago		
Toward budget of university press (LS 757)	20,973.31	12,500.00
University of Cincinnati, Ohio		
Work in child care and parent education (LS 894)	15,000.00	4,820.50
University of Minnesota		
Work in child study and parent education (LS 908, 909, 933, 934)	563,564.11	84,770.28
University of North Carolina		
Toward budget of university press (RF 29055, 30047)	28,500.00	16,000.00
University of Toronto		
Development of child research and parent education (LS 582, RF 30054)	177,500.00	12,500.00
Vocational Service for Juniors, New York City		
Training program for counselors (LS 948)	42,000.00	6,118.71
Young Men's Christian Association		
General Board, New York City (LS 717)	20,000.00	20,000.00
Y. M. C. A. College, Chicago, Ill. (LS 754)	55,123.79	26,642.09
Y. M. C. A. and Y. W. C. A. International Survey Committee (RF 29035)	180,331.31	117,632.45
ADMINISTRATION		
Executive Offices		
1928 (RF 28010)	3,064.61
1929 (RF 2824, 28146, 28377, 29037, 29094, 29106, 29115)	111,340.03	27,301.19
1930 (RF 29144, 30009, 30010, 30078)	827,170.00	724,131.49
1931 (RF 30109)	753,305.00

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THE ROCKEFELLER FOUNDATION

Treasurer's Office			
1929 (RF 28149, 29023)	\$7,983.86	\$6,851.00	
1930 (RF 30015, 30069)	33,482.49	23,162.87	
1931 (RF 30110)	33,784.48	
Paris Office			
1929 (RF 28147, 29023)	37,884.17	16,674.95	
1930 (RF 29145)	98,400.00	66,911.53	
1931 (RF 30111)	98,400.00	
Peiping Office			
1929 (RF 28148)	9,978.98	1,865.02	
1930 (RF 29146)	13,000.00	5,205.63	
1931 (RF 30112)	10,550.00	
Surveys by others than Officers (RI 29096)	25,000.00	
Total Appropriations	\$60,555,736.45		
Unused balances of appropriations allowed to lapse	1,219,151.61		
Total Net Appropriations and Expenditures	\$59,336,584.84	\$15,728,638.84	

REFUNDS

Laboratory of Anthropology at Santa Fe (LS 992)	\$1,041.10
National Research Council	
Committee on scientific problems of Human Migration (LS 702)	7.20
Peking Union Medical College	
Diet investigations (CM 2539)	11.77
Fellowships for residents of China, Japan, and Far East (ME 21214)	23.91
Playground and Recreation Association of America	
Investigations in recreation and allied activities (LS 884)	693.91
	\$1,777.89

EXHIBIT E
INTERNATIONAL HEALTH DIVISION
DESIGNATIONS AND PAYMENTS

LOCAL (FULL-TIME) HEALTH DEPARTMENTS		PRIOR	1930	1930	THE ROCKEFELLER FOUNDATION
		DESIGNA-	DESIGNA-	PAYMENTS	
United States					
Alabama					
1929 (IH 28110-12)	..	\$14,597.48	\$..	\$8,446 18	
1929 and 1930 Aid to unorganized counties (IH 28109)	..	19,254.83		11,791 51	
1930-33 Epidemiological Unit (IH 30019)	12,300 00	..	
Arizona					
1930-31 (IH 30030)	6,250.00	..	
Arkansas					
1929 (IH 28229-31, 29051)	..	1,800.00	..	900.00	
California					
1928 (IH 23693)	..	750.00	
1929 (IH 28232-35, 29051)	..	2,375.00	..	2,062.50	
1930 (IH 29100-03, 30143)	13,350 00	6,208.90	
Colorado					
1929 (IH 28236)	..	250.00	..	250.00	
1930 (IH 29104)	500 00	375 00	
Georgia					
1929 (IH 28240, 28243, 28435-36)	..	5,378.27	..	4,762.40	
1930 (IH 29105-11, 144)	26,392.75	8,056.56	
Idaho					
1929 (IH 29040, 29075)	1,425 00	975.00	
1930 (IH 29112, 29260)	2,212 50	431.25
Indiana					
1930 (IH 30023)	4,600 00	

Iowa				
1929-31 (IH 28248, 29051, 29053, 29113)		\$7,750 00	\$1,000 00	\$2,021 96
Kansas				
1929 (IH 28250-52, 29057, 29076)		1,250.00		1,250 00
1930 (IH 29114-16, 30056-57)		833.33	9,587 48	3,515 61
Kentucky				
1929 (IH 28253-57)		6,239 87		5,477 09
1930-33 (IH 29261)		20,650.00	..	7,089 02
Louisiana				
1929 (IH 28260, 28263, 28412-13)		6,500 00		6,417 22
1930-31 (IH 29117-19, 30005)		1,000 00	3,000 00	2,233 88
Maryland				
1930 (IH 30024)	1,200 00	..
1931-34 (IH 30145)	16,650 00	..
Michigan				
1929-34 (IH 28266, 28278, 29019, 29045-49)		62,941 43		10,322 73
Mississippi				
1929 (IH 28273-84, 29013)		6,313 67		5,483 55
1930-33 (IH 29120-32, 30146)	45,325 00	8,452 04
Missouri				
1929 (IH 28286, 28414-16, 29051, 29065)		1,937 50		1,875 00
1930-32 (IH 29133-36, 30025-26)	20,700 00	3,675 00
Montana				
1929 (IH 29054)		2,266.67	..	1,366 67
Nevada				
1930-32 (IH 30147)	2,500 00	..
Oklahoma				
1929 (IH 28297-305)		2,078.89	..	1,525.00
1930-33 (IH 29137-41, 30031)	10,912 50	4,345.83
Oregon				
1929 (IH 28306-13, 29051)		1,125 00	..	975.00

EXHIBIT E—Continued

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THE ROCKEFELLER FOUNDATION

LOCAL (FULL-TIME) HEALTH DEPARTMENTS—Continued

United States—Continued

South Carolina

1929 (IH 28319-25, 29032).....	\$4,125.00	\$.....	\$3,975.00
1930-33 (IH 29142-52, 30006).....	16,200.00	17,100.00	12,275.00

South Dakota

1929 (IH 28419).....	625.00
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Tennessee

1929 (IH 28330-38, 29051, 29072).....	7,873.95	6,648.95
1930-33 (IH 29099).....	29,689.58	9,494.10

Texas

1929 (IH 28341, 29073).....	625.00
1930-33 (IH 29153, 30032, 30152).....	13,400.00	616.11

Utah

1925-28 (IH 22411, 22990-92, 23161, 23169, 23291).....	4,657.98
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1929 (IH 28344-47, 29051).....	2,750.00	750.00
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Virginia

1929 (IH 29098).....	3,494.49	3,125.37
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1930-32 (IH 29098).....	17,083.34	7,044.70
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West Virginia

1929 (IH 28349, 28356, 29051, 29074).....	6,426.38	4,525.85
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1930-33 (IH 29154-62, 30007).....	17,325.00	16,575.00	9,190.83
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Continuation of aid to certain county budgets for last six months of
1929 (IH 29051).....

3,625.00
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Mississippi flood area

1927-1932 (IH 23521)	43,352.88	34,330.66
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Arkansas, 1929-30.....	696.05	Cr. 30.32
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Illinois, 1929.....
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Kentucky, 1928-31.....	\$57,156.25	\$.....	\$42,682.47
Louisiana, 1929-31.....	75,802.83	48,690.04
Mississippi, 1929-30.....	20,820.44	11,959.96
Missouri, 1929-31.....	2,050.00	1,108.48
Tennessee, 1929-30.....	1,280.94	1,006.20
Training Station, 1929-31.....	19,738.44	10,169.83
Unallocated balance.....	18,337.79
Foreign countries			
Austria			
1929-33 (IH 28391, 29069, 29263).....	15,097.41	2,535.00	6,576.49
Brazil			
1929 (IH 28184-93, 28406-09).....	10,512.46	5,024.23
1930 (IH 29166).....	5,000.00	3,181.32
Bulgaria			
1928-29 (IH 28130-31).....	1,450.09
1930 (IH 29167).....	925.00
Canada			
1928-29 (IH 23606-15, 28152, 29078, 28154-62, 29037-38, 29063)	40,774.06	27,447.33
1930-34 (IH 29052, 29163, 30055, 30027).....	104,370.00	35,530.00	19,378.26
China. Shanghai, 1929-31 (IH 28388-89, 29249-50).....	23,156.50	6,320.72
Czechoslovakia 1928-32 (IH 23858, 28202-03, 29239-40, 30042).....	20,315.00	1,020.00	8,797.21
France			
1928-31 (IH 23866, 23869, 28094, 28397-400, 29001, 29021, 29241-43, 30001, 30013-14, 30166).....	37,658.62	12,400.00	23,874.49
Guatemala			
International Health Division Office, Guatemala City			
1930 (IH 30041).....	2,400.00	465.27
Hungary			
1928-30 (IH 28013, 28077, 28403, 29002-03, 29068, 29168, 29244, 30003, 30015).....	26,390.00	18,775.00	4,675.90

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EXHIBIT E—Continued

LOCAL (FULL-TIME) HEALTH DEPARTMENTS—Continued
Foreign countries—Continued

	PRIOR DESIGNA- TIONS	1930 DESIGNA- TIONS	1930 PAYMENTS
India			
Burma			
1929-32 (IH 29060)	\$16,650.00	\$. . .	\$4,094.01
Myeore State			
1929-31 (IH 28047, 29035, 30038)	2,820.00	940.00	1,801.50
Irish Free State			
1928-35 (IH 28043-44, 28210-11, 29245-46, 30050)	44,186.29	28,700.00	13,594.42
Jamaica			
1929-32 (IH 29233-36, 28167, 28168-70, 29080-81, 30160)	3,712.67	14,413.00	5,269.77
Mexico			
1928 (IH 23897)	30.00		
1929-33 (IH 29007, 29030, 29165, 30060-63)	11,104.11	9,950.00	4,623.41
Paraguay			
1929 (IH 29198-99)	5,439.78		
Philippine Islands			
1929-32 (IH 29062)	8,750.00		1,198.39
Poland			
1927-28 (IH 23470, 23874)	14,234.43		
1929-34 (IH 28215, 29010, 29025-26, 29247, 29248, 29265)	56,238.33	1,000.00	36,516.65
Porto Rico			
1929-32 (IH 28174-77, 29036, 29055-56, 29170-71, 29237-38, 30066)	5,543.43	8,515.00	7,295.68
Spain			
1929-33 (IH 28133, 29251)	46,130.00	1,700.00	19,373.29

STATE HEALTH SERVICES

Sanitary Engineering

United States

Indiana

1929 (IH 28247, 29041)

\$2,610 00 \$

North Dakota

1929 (IH 28295)

375 00 375 00

1930 (IH 29173)

1,500 00 1,100 32

South Carolina

1929 (IH 28327)

625 00 625 00

1930-33 (IH 29174, 30150)

5,700 00 1,575 00

South Dakota

1929-31 (IH 29077)

4,408 33 2,610 16

Foreign countries

India

Mysore State

9,357 35 Cr. 767 65

1930-32 (II 29061)

Poland

1929-31 (IH 29022, 30016)

3,000 00 1,145 93

Public Health Laboratories

United States

Florida

1930 (III 29178)

.. 1,350 00 675 00

Mississippi

1929 (IH 29009)

1,158 00 1,156.99

1930 (IH 29179)

.. 3,600 00 1,800.00

Missouri

1929 (IH 29066)

900 00 900.00

South Carolina

1929 (IH 28328)

250 00 250.00

1930 (IH 29177)

.. 600 00 562 50

TREASURER'S REPORT

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EXHIBIT E—Continued

	PRIOR DESIGNA- TIONS	1930 DESIGNA- TIONS	1930 PAYMENTS
STATE HEALTH SERVICES—Continued			
Public Health Laboratories—Continued			
United States—Continued			
Tennessee			
1929 (IH 28441, 29051)	\$689.71	\$	\$642.21
1930 (IH 29176)	1,950.00	1,495.21
Utah			
1927-28 (IH 23335, 23532, 23807)	1,665.24
Foreign countries			
Colombia			
1929-30 (IH 28196, 29258)	5,955.71	5,254.15
Guatemala			
1929 (IH 29006)	627.45
Honduras			
1929 (IH 29096)	445.18	445.18
Hungary			
1929-30 (IH 28208, 29092)	960.00	944.42
Nicaragua			
1929 (IH 28390)	3,409.35	3,409.35
Epidemiology			
United States			
Arizona			
1930-31 (IH 29180, 30030)	2,850.00	1,900.00
Georgia			
1929 (IH 28245)	1,187.50

Iowa				
1930 (IH 29181).....	\$.....	\$2,200.00	\$1,650.00	
Kentucky				
1929 (IH 28258).....	728.14	728.14	
1930 (IH 29182).....	3,500.00	2,626.71	
Maryland				
1930-31 (IH 30004).....	6,300.00	
Michigan				
1930-33 (IH 30058).....	14,700.00	
Mississippi				
1929 (IH 28285).....	1,348.58	1,321.08	
1930 (IH 29183).....	4,200.00	1,791.33	
Montana				
1929 (IH 28289, 29051).....	923.62	923.62	
1930 (IH 29184).....	3,500.00	2,612.43	
New York				
1930-32 (IH 30020, 30149).....	1,150.00	
North Carolina				
1929 (IH 28292).....	4,725.00	
North Dakota				
1929 (IH 28294).....	678.82	678.82	
1930 (IH 29186).....	2,700.00	2,025.00	
South Carolina				
1929 (IH 28326).....	625.00	625.00	
1930 (IH 29187).....	2,100.00	1,575.00	
South Dakota				
1929 (IH 28329).....	1,150.00	1,004.33	
1930 (IH 29188).....	2,300.00	1,588.41	
Tennessee				
1929 (IH 28340, 29051).....	1,085.23	1,085.23	305
		6,250.00	3,859.39	

EXHIBIT E—Continued

	PRIOR DESIGNA- TIONS	1930 DESIGNA- TIONS	1930 PAYMENTS
STATE HEALTH SERVICES—Continued			
Epidemiology—Continued			
United States—Continued			
Utah			
1925-29 (IH 22466, 22667, 23014, 23447, 23533, 23806, 28348, 29051).....	\$7,441.44	\$.....	\$.....
Foreign countries			
Canada			
1929-30 (IH 29079)	3,300.00	2,531.25
Denmark			
1929 (IH 28204).....	1,380.99	1,336.90
1930-31 (IH 29264).....	10,800.00	2,686.37
Spain			
1929-31 (IH 28220, 29256)	4,495.47	920.00	979.29
Vital Statistics			
United States			
Georgia			
1929 (IH 29051)	600.00	600.00
Massachusetts			
1930-33 (IH 30022)	9,360.00	1,960.00
New Mexico			
1929 (IH 29051)	1,200.00	1,200.00
Oklahoma			
1927 (IH 23603)	500.00	500.00
Oregon			
1930-31 (IH 30029)	562.50	187.50

Tennessee				
1929 (IH 29051)	\$275.00	\$	1,100.00	\$275.00
1930 (IH 29190)			803.85
Texas				
1929 (IH 28342)	2,602.30		..	1,975.09
Foreign countries				
Denmark				
1929-31 (IH 28395, 29253)	1,559.12			768.31
France				
1929 (IH 28396)	125.37			36.88
Paraguay				
1929 (IH 28200)	2,090.00			
Rumania				
1930-34 (III 30051, 30171)			20,255.00	
Spain				
1929-33 (III 29011, 29094)	49,753.64			5,249.36
Yugoslavia				
1928-29 (III 28097, 28214)	4,832.83			2,167.51
1930 (IH 29191)	4,500.00			1,547.54
Public Health Nursing				
Brazil				
1929-31 (IH 28194, 29251)	15,379.45			3,307.71
Denmark				
1929 (III 28433)	4,423.35			1,811.70
1930-33 (IH 29192)		7,182.00	4,022.95
France				
1929-30 (IH 28206, 29255)	4,375.00		1,612.00	2,075.92
Hungary				
1930-34 (IH 30048)		3,950.00	..
Poland				
1928-29 (III 28002, 29024)	5,200.00			1,509.37
Yugoslavia				
1929-31 (III 29071)	1,550.00		..	1,250.00

EXHIBIT E—Continued

	PRIOR DESIGNA- TIONS	1930 DESIGNA- TIONS	1930 PAYMENTS
STATE HEALTH SERVICES—Continued			
Public Health Administration			
West Indies			
Porto Rico			
1930 (IH 29194).....	\$.....	\$9,560.00	\$7,691.00
Bureaus for Study and Reform of Public Health Activities			
France			
1929 (IH 28207).....	12,000.00	11,794.97
1930 (IH 30002).....	12,000.00
Hungary			
1929 (IH 28209).....	486.08	486.08
Poland			
1929 (IH 28218).....	5,000.00	4,999.95
Other State Health Services			
United States			
Iowa. Division of Communicable Diseases and Child Hygiene Work			
1929 (IH 28249, 29051).....	616.68	550.01
Nevada. Central Administration			
1929 (IH 29042).....	1,593.75	843.75
New York. Central county health service			
1931-33 (III 30148).....	6,250.00
New York City Health Department. Study of Child Hygiene and Tuberculosis Divisions			
1929 (IH 29097).....	20,000.00	17,250.00
North Carolina. Life Extension Unit			
1929 (IH 28293).....	5,000.00

North Dakota. Division of Child Hygiene 1930-31 (IH 30059).....	\$.....	\$2,400.00	\$.....
Continuation of aid to certain state budgets for last six months of 1929 (IH 29051).....	1,500.00
Foreign countries			
Austria. Travel of Director of Rural Health Work 1930 (IH 29196).....	1,000.00
Bulgaria. National Office of the Direction of Public Health, Sofia 1928 (IH 28076).....	2,295.31
Hungary Institute of Social Hygiene, Budapest 1928 (IH 23668, 28022).....	4,277.59	3,824.74
Division of Field Work. Operation 1930 (IH 29197).....	1,480.00
Jamaica. Bureau of Health Education, Kingston 1930 (IH 29193).....	2,450.00	2,064.83
Netherlands East Indies			
Java. Division of Public Health Education, Batavia 1929 (IH 28222).....	11,723.51	4,943.79
1930 (IH 29195).....	12,382.00	8,262.68
Norway. State Institute of Public Health, Oslo 1929-34 (IH 29043).....	47,250.00	4,579.96
Poland			
Travel of supervisor of district public health work 1928 (IH 23670) Bureau of District Health Work, Warsaw 1929-31 (IH 29023).....	1,000.00	338.15
LEAGUE OF NATIONS			
Toward maintenance of an interchange of public health personnel 1925 (IH 22472).....	823.67
1927 (IH 23362).....	182.02
1928 (IH 23676, 23850, 28037).....	308.52
1929 (IH 28108).....	50,000.00

EXHIBIT E—Continued

	PRIOR DESIGNA- TIONS	1930 DESIGNA- TIONS	1930 PAYMENTS
LEAGUE OF NATIONS—Continued			
Toward development of epidemiological intelligence and public health statistics services and a center of public health documentation			
1927 (IH 23359-60, 23516)	\$11,274 28	\$	\$
1928 (IH 23675, 23677)	4,949.17	· · · · ·	· · · · ·
1929 (IH 28106)	54,795.00	· · · · ·	· · · · ·
Epidemiological Intelligence Bureau in the Far East			
1928 (IH 23678)	6,296.44	· · · · ·	· · · · ·
1929 (IH 28107)	40,000.00	· · · · ·	· · · · ·
PUBLIC HEALTH EDUCATION			
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 21680, 22497, 22174)	122,981 19	· · · · ·	107,024 29
England. London School of Hygiene and Tropical Medicine			
Operation (IH 23665, 28205)	19,201.04	· · · · ·	12,980.00
Hungary			
State Hygienic Institute, Budapest			
Buildings and equipment (IH 22639, 23472)	1,074.27	· · · · ·	1,074 27
School for public health officers			
1928 (IH 23848)	3,600 00	· · · · ·	3,505 70
1929-32 (IH 29093, 28392)	7,140 00	· · · · ·	· · · · ·
Norway. School of Public Health, Oslo			
Maintenance, 1930-35 (IH 30012)	8,100.00	· · · · ·	980 00

Trinidad. Imperial College of Tropical Agriculture, St. Augustine Toward maintenance of chair of sanitation and tropical hygiene 1929-32 (IH 28105, 29082)	\$15,128 00	\$	\$5,000 00
Harvard Medical School Preparation and publication of revised edition of <i>Syllabus of Preventive Medicine</i> (IH 28115)	6,500 00	.	.
China First Midwifery School, Peiping 1929-33 (IH 29044, 29237)	44,900 00	.	12,940 82
Central Medical School for Native Medical Students, Suva, Fiji. Maintenance 1928 (III 23681) 1929-31 (IH 28221, 29095)	847 41 34,504 06	.	18,038 53
University of Washington School of Nursing. Maintenance 1931 (III 30140)	4,500 00	.
Training of health workers 1929-30 (IH 28365, 29204)	16,277 75	40,000 00	23,633 35
Travel of government health officials Travel of state health officials in United States, Canada, and Mexico 1929-30 (IH 28362, 29201)	6,107 85	11,000 00	5,494 88
Travel of European health officials in Europe 1929-30 (IH 28363, 29090, 29202, 30047)	2,895 89	6,000.00	3,626.39
Travel of visiting health officials 1929-30 (IH 28364, 29203)	14,021 51	19,000 00	7,692 04
Training Stations United States Michigan 1929-31 (IH 29050)	28,800.00	.	6,265 00
Ohio 1929 (IH 28296, 29027)	621 25	.	Cr. 1 00

EXHIBIT E—Continued

	PRIOR DESIGNA- TIONS	1930 DESIGNA- TIONS	1930 PAYMENTS
PUBLIC HEALTH EDUCATION—Continued			
<i>Training Stations—Continued</i>			
Canada			
Quebec			
1929-30 (IH 29064).....	\$5,083.33	\$.....	\$2,164.59
Europe			
Italy			
1928-29 (IH 23872, 28213).....	3,794.30	1,823.03
1930 (IH 29205).....	4,180.00	556.44
Fellowships			
Grants to doctors for study of public health			
(IH 29087, 29089, 29198, 30046, 30053).....	142,923.86	300,500.00	239,824.85
Resident			
Hungary (IH 28359, 29199).....	137.16	1,000.00	135.33
Italy (IH 22866, 23468).....	23.86
Poland (IH 28361).....	1,249.94	1,244.35
Yugoslavia (IH 28360, 29200).....	1,898.25	1,500.00	2,910.17
CONTROL OF SPECIFIC DISEASES; INVESTIGATIONS			
Hookworm			
Control			
Mexico			
1927 (IH 23171).....	10.68
Central America, Panama			
1929 (IH 28163).....	714.83
South America			
Colombia			
1929-30 (IH 28195).....	11,274.19	8,860.19

Paraguay				
1929 (IH 28197).....	\$12,726.11	\$.....	\$.....	
West Indies				
Jamaica				
1929 (IH 28164-65).....	343.68	166.96	
Porto Rico				
1929 (IH 28172).....	5,793.58	3,286.58	
The East				
Egypt				
1929 (IH 29020).....	4,815.61	508.30	
1930 (IH 29206).....	7,475.00	2,336.79	
Siam				
1928 (IH 23685).....	69.80	
1929 (IH 29004).....	14.06	
Straits Settlements				
1928 (IH 23687, 28434).....	1,091.02	65.74	
Europe				
Spain				
1929 (IH 28219, 28405).....	2,218.19	1,525.10	
1930 (IH 29207, 29208).....	2,975.00	1,034.42	
Investigations and Surveys				
United States				
Alabama				
1929 (IH 28228).....	3,452.32	3,428.64	
1930 (IH 29213, 30033).....	600.00	9,370.00	7,890.51	
Studies by Dr. W. W. Cort				
1929 (IH 28224).....	2,950.88	2,018.01	
1930 (IH 29210).....	9,925.00	4,660.17	
Vanderbilt University				
Research in carbon tetrachloride				
1929 (IH 28225).....	7,160.64	1,747.28	313
1930-31 (IH 29211-12, 30037).....	36,989.50	20,675.00	

EXHIBIT E—Continued

	PRIOR DESIGNA- TIONS	1930 DESIGNA- TIONS	1930 PAYMENTS
CONTROL OF SPECIFIC DISEASES; INVESTIGATIONS—Continued			
<i>Hookworm—Continued</i>			
Investigations and Surveys—Continued			
Foreign countries			
Egypt			
1929 (IH 29086)	\$2,789.12	\$	\$1,033.18
1930 (IH 30009)	6,400.00	3,246.88
Miscellaneous			
Motion picture film on hookworm disease (IH 28366)	..	500.00
Malaria			
Control			
United States			
Georgia			
1929 (IH 28237-39)	3,261.26	.	3,236.26
1930 (IH 29214)	3,500.00	2,611.33
Louisiana			
1929 (IH 28259)	2,400.00	.	1,468.40
1930 (IH 29215)	1,800.00	1,160.65
Mississippi			
1929 (IH 28269-72)	4,116.66	.	3,806.04
1930 (IH 29216)	8,540.00	3,472.26
North Carolina			
1927 (IH 23405)	844.40
South Carolina			
1929 (IH 28315-18)	1,050.00	1,050.00
Virginia			
1929 (IH 28828-30)	3,833.59	1,229.61
1930 (IH 29262)	2,000.00	1,500.00

Foreign countries						
Argentina						
1929 (IH 29015, 29083-85)	\$1,716 12	\$	\$. . .	
Brazil						
1929 (IH 28183).....	5,174 19	
1930 (IH 29217).....	10,000 00	
Costa Rica						
1928 (IH 28101).....	1,500 00	750 00	
Grenada						
1930-31 (IH 30065).....	1,000 00	211 00	
India						
Mysore State						
1928-30 (III 28046, 29034)	3,760 00	1,809 50	
Savantwadi						
1929-30 (IH 29033).....	497 72	
Spain						
1929 (IH 28404).....	1,657.12	668 73	
1930 (IH 29220).....	3,400 00	1,967.83	
Investigations and Surveys						
United States						
Johns Hopkins University						
1929-30 (IH 28226, 29031).....	951 61	950 00	
North Carolina, Edenton						
1929 (IH 28291).....	285 22	Cr. 311 00	
University of Chicago						
1929 (IH 28227).....	41	2,000 00	1,376.08
1930 (IH 29225).....	
Foreign countries						
Bulgaria						
1929-31 (IH 28293, 29252, 30018).....	18,472.19	8,500.00	11,465 56	
Colombia, Anopheline survey						
1929 (IH 29005).....	1,631 40	830 78	15

EXHIBIT E—Continued

CONTROL OF SPECIFIC DISEASES; INVESTIGATIONS—Continued

Malaria—Continued

Investigations and Surveys—Continued

Foreign countries—Continued

France, Corsica

1929 (IH 28394).....

1930 (IH 29223).....

PRIOR
DESIGNA-
TIONS1930
DESIGNA-
TIONS1930
PAYMENTS

.....

\$5,594.28

.....

Greece

1930 (IH 30011).....

.....

10,625.00

4,658.19

Grenada, Anopheline survey

1929 (IH 29029).....

1,965.90

.....

44.57

Italy

1928 (IH 23669).....

26,308.97

.....

.....

1929 (IH 28212).....

39,528.31

.....

28,840.06

1930 (IH 29222, 30017).....

85,150.00

.....

62,407.29

Jamaica

1929-30 (IH 28166, 29219).....

704.27

.....

890.82

Netherlands, Amsterdam

1928 (IH 28023).....

1,132.77

.....

.....

1929-33 (IH 28402, 29091).....

26,884.17

.....

5,491.15

Philippine Islands

1929 (IH 28387).....

2,664.32

.....

2,662.06

1930 (IH 29224, 30008).....

7,750.00

.....

5,924.53

Porto Rico

1929-31 (IH 28173, 29259, 30039).....

949.04

.....

6,662.13

Venezuela

1929 (IH 28201).....

297.32

.....

.13

1930 (IH 29218).....

1,680.00

.....

Yugoslavia				
1929 (IH 28132).....	\$4,500.00	\$.....	\$2,157.81	
1930 (IH 29221).....		3,000.00		
Yellow Fever				
Control				
Brazil				
1929 (IH 28367).....	153,821.61	45,879.64	
1930 (IH 29226, 30068).....		475,000.00	131,777.98	
Investigations and Surveys				
West Africa				
1929 (IH 28367).....	15,248.69	10,216.73	
1930 (IH 29226).....		110,000.00	91,714.42	
Brazil, Bahia				
1930 (IH 29226).....		50,000.00	39,094.49	
Research and Training				
1929 (IH 28367).....	9,849.89	4,171.57	
1930 (IH 29226).....		40,000.00	23,232.12	
Surveys				
1930 (IH 29226).....		10,000.00	1.26	
History of Yellow Fever				
1929 (IH 28367).....	2,209.38	150.00	
1930 (IH 30067).....		400.00	312.37	
Respiratory Diseases				
Field Research				
1929 (IH 28410).....	804.09	246.46	
1930 (IH 30010, 30045).....		10,000.00	6,669.79	
1931 (IH 30052).....		15,000.00		
Tuberculosis				
Jamaica				
Survey and x-ray laboratory (IH 23864, 30161).....	877.23	975.00	254.25	

EXHIBIT E—Continued

	PRIOR DESIGNA- TIONS	1930 DESIGNA- TIONS	1930 PAYMENTS	318
CONTROL OF SPECIFIC DISEASES; INVESTIGATIONS—Continued				
Tuberculosis—Continued				
Jamaica—Continued				
Study clinic				
1929 (IH 28171)	\$738.76	\$..	\$522.57	
1930 (IH 29227)		7,350.00	6,434.28	
X-ray machine				
(IH 29228, 30040, 30064)		4,000.00	3,916.73	
United States				
University of Pennsylvania				
Henry Phipps Institute. Studies in tuberculosis (IH 30044)		80,000.00	20,000.00	
Undulant Fever				
France				
Investigations				
1930-31 (IH 30043)		9,440.00	
Sanitation				
India. Field research relating to bored-hole latrines				
1929 (IH 28223)	1,981.11	747.72	
1930 (IH 29230)		1,020.00	415.18	
Philippine Islands				
1930-31 (IH 30054)		6,750.00	
Epidemiological Studies				
Maryland				
Field study in dysentery				
1930-32 (IH 30035)		6,900.00	
Tennessee				
Research, developing methods, and training of personnel				
1930-33 (IH 30021)		9,690.00	363.26	
Field study of <i>Entamoeba histolytica</i>				
1930-32 (IH 30034)		16,290.00	1,060.07	

Virginia				
Field study of dysentery				
1930-31 (IH 30036, 30154)	\$.....	\$11,481 66	\$1,268.93	
Public Health Surveys				
India				
Travancore				
1929 (IH 29012)	333.89	925.00	Cr. 353.01	
1930 (IH 29229)			81.86	
FIELD SERVICE				
Salaries and expenses of staff				
Salaries (IH 28368, 29231)	26,602 69	486,500.00	450,293 64	
Traveling expenses (IH 28368, 29231)	32,592.01	158,500.00	156,814 57	
Commutation (IH 28368, 29231)	23,316.98	57,500.00	41,863.44	
Medical examinations (IH 28368, 29231)	1,023 00	1,000.00	510.75	
Drugs for conserving health (IH 28368)	445 24			
Field equipment and supplies (IH 28368, 29231)	5,109.85	8,250.00	6,759.92	
Pamphlets and charts (IH 28368, 29231)	1,178.94	8,250.00	5,333.69	
Express, freight, and exchange (IH 28368, 29231)	949.52	1,000.00	758.22	
Insurance and retirement allowances (IH 28368, 29231)	21,428.66	48,000.00	48,408.16	
Bonding (IH 28368, 29231)	2,988.86	3,000.00	3,235.40	
Hookworm and malaria films donated or lent (IH 28368)	763 17		Cr. 162.50	
Automobiles (IH 28368, 29231)	2,210.70	2,000.00	Cr. 789.30	
Rio de Janeiro office. Administration (IH 28182, 29232)	6,131 26	15,000.00	5,343 99	
Greece. Services of malariologist and sanitary engineer 1931-34 (IH 30167)		60,000.00		
Director's fund for budget revision (IH 29019)	1,835 00			
Totals.	\$2,472,729 30	\$2,905,032.89*	\$2,466,106 69	

Refunds on prior year appropriations

Yugoslavia. County Health Work
Equipment (IH 23849)

\$1.22

TREASURER'S REPORT

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*The Foundation appropriated during 1930 for work of the International Health Division \$2,930,820.00, the undesignated balance of \$25,787.16 being allowed to lapse as of December 31, 1930.

EXHIBIT F
SUMMARY OF PRIOR OBLIGATIONS ACCOUNT

Prior Obligations Account

Unpaid appropriations, December 31, 1929.....	\$25,877,557.57	
Appropriations made during the year 1930 on pledges and authorizations.....	<u>1,405,500.00</u>	
Less unused balances of appropriations allowed to lapse.....		\$27,283,057.57
		<u>1,039,834.50</u>
Less payments made during the year 1930.....		\$26,243,223.07
		<u>9,195,955.12</u>
Appropriations payable.....		\$17,047,267.95
Pledges and authorizations for which appropriations had not been made, December 31, 1929.....	\$9,848,356.45	
Less		
Appropriations made during the year 1930.....	\$1,405,500.00	
Authorizations allowed to lapse.....	<u>1,302,056.45</u>	2,707,556.45
Balance payable on prior obligations, December 31, 1930.....		7,140,800.00
		<u><u>\$24,188,067.95</u></u>

EXHIBIT G
SUMMARY OF APPROPRIATIONS ACCOUNT

Current Appropriations Account

Unpaid appropriations, December 31, 1929.....	\$16,258,102.91	
Appropriations made during the year 1930.....	<u>17,014,575.97</u>	
Less unused balances of appropriations allowed to lapse.....		\$33,272,678.88
		<u>179,317.11</u>
Less payments made during the year 1930.....		\$33,093,361.77
		<u>6,532,683.72</u>
Appropriations payable.....		\$26,560,678.05
Pledges and authorizations for which appropriations had not been made, December 31, 1929.....	\$12,718,000.00	
Pledges and authorizations made during the year 1930.....	<u>2,235,000.00</u>	
		<u>\$14,953,000.00</u>
Less		
Appropriations made on pledges and authorizations during the year 1930.....	\$3,650,000.00	
Authorizations allowed to lapse.....	<u>875,000.00</u>	4,525,000.00
		10,428,000.00
Balance payable on current obligations, December 31, 1930.....		<u>\$36,988,678.05</u>

**EXHIBIT H
STATEMENT OF PRINCIPAL FUND**

Balance, December 31, 1929	\$147,373,921.68
Authorizations and funds set aside for prior obligations allowed to lapse	1,302,056.45
	<hr/>
Less amount transferred to a reserve for contingent projects in accordance with a resolution of the Board of Trustees dated April 16, 1930	\$148,675,978.13
	6,000,000.00
	<hr/>
	\$142,675,978.13

This fund is accounted for in securities.

STATEMENT OF RESERVE FOR CONTINGENT PROJECTS

Amount transferred from principal (see above)	\$6,000,000.00
This fund is accounted for in securities.	<hr/>

EXHIBIT I
STATEMENT OF LAND, BUILDINGS, AND EQUIPMENT FUND

	TOTAL Dec. 31, 1929	EXPENDI- TURES 1930	TOTAL Dec. 31, 1930
Home Office			
Library	\$10,353.48	\$1,644.01	\$11,997.49
Equipment, December 31, 1929	<u>\$41,834.50</u>		
Less depreciation, 1930	<u>11,214.13</u>	30,620.37	5,745.70
Paris Office			
Part interest in building occupied by Paris Office	68,000.00		68,000.00
Land in Shanghai	298,331.95		298,331.95
	<u>\$407,305.80</u>	<u>\$7,389.71</u>	<u>\$414,695.51</u>

EXHIBIT J
SCHEDULE OF SECURITIES ON DECEMBER 31, 1930
BONDS

THE ROCKEFELLER FOUNDATION

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	219,000.00	101.742018	222,815.02
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-Hun- dred-year Adjustment 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	583,000.00	101.021334	588,954.38
Baltimore & Ohio R. R. Equipment Gold Series "F".....	4½	Nov., 1933	175,000.00	100.596382	176,043.67
Baltimore & Ohio R. R. Refunding & Gen- eral 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	21,000.00	100.75	21,157.50
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.....	6 $\frac{1}{2}$	Aug., 1932	\$1,658,000.00	101.5542	\$1,683,768.76
Calgary Protestant Public School District No. 19, Province of Alberta.....	5	Serially June 2, 1931-48	175,750.00	85.	149,387.50
Canadian Pacific Ry. Ten-year Collateral Trust 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.....	4 $\frac{1}{2}$	Aug., 1933	106,000.00	100.609424	106,645.99
The Central R. R. of New Jersey Equipment Trust Gold of 1926.....	4 $\frac{1}{2}$	Aug., 1934	106,000.00	100.826415	106,876.00
Chesapeake & Ohio R. R. Equipment Gold of 1930.....	4 $\frac{1}{2}$	May, 1936	125,000.00	100.381032	125,476.29
Chicago & Alton Ry. 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 Mort- gage.....	5	July, 1937	22,000.00	102.389237	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 1931-40	\$1,330,000.00	98.25	\$1,306,725.00
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	62.5	1,115,750.00
Chicago & North Western Ry. General Mortgage.....	5	Nov., 1987	195,000.00	98.	191,100.00
Chicago Rys. Co. First Mortgage Gold (15% paid).....	5	Feb., 1927	500,000.00	82.	410,000.00
Chicago, Rock Island, & Pacific Ry. First and Refunding Mortgage Gold.....	4	Apr., 1934	2,208,000.00	95.2434	2,102,974.42
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	100.548186	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, 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. Twenty-year Debenture Gold.....	4½	Jan., 1931	100,000.00	100.125	100,125.00
Cleveland, Cincinnati, Chicago, & St. Louis Ry. General.....	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 Ex- tension 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	54,000.00	101.1458148	54,618.74
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	90,000.00	105.4416777	94,897.51
Denver & Rio Grande R. R. First Consoli- dated Mortgage Gold.....	4	Jan., 1936	791,000.00	96.4355284	762,805.03
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
Dominion of Canada, Government of, Public Service Gold Loan of 1916.....	5	Apr., 1931	500,000.00	94.565	472,825.00
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., 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

EXHIBIT J—Continued

NAME	INTEREST RATE PER CENT	DATE OF MATURITY	AMOUNT	FOUNDATION'S LEDGER VALUE PER CENT	FOUNDATION'S TOTAL LEDGER VALUE
Erie R. R. General Mortgage Convertible Gold Series "B".....	4	Apr., 1953	\$1,065,000.00	74.717586	\$795,742.30
Galveston, Harrisburg, & San Antonio Ry., Mexican & Pacific Extension First Gold.....	5	May, 1931	56,000.00	100.5625	56,315.00
General Motors Acceptance Corp. Serial Gold Notes Series "F".....	5	Mar., 1932	66,000.00	100.75	66,495.00
General Motors Acceptance Corp. Serial Gold Notes Series "G".....	5	Mar., 1933	98,000.00	100.6399683	98,626.89
General Motors Acceptance Corp. Serial Gold Notes Series "H".....	5	Mar., 1934	217,000.00	100.9064009	218,966.88
General Motors Acceptance Corp. Serial Gold Notes Series "I".....	5	Mar., 1935	144,000.00	100.456166	144,656.88
Great Northern Ry. General Mortgage Gold Series "A".....	7	July, 1936	1,059,000.00	110.95715	1,175,036.31
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	663,000.00	102.452119	679,257.55
Illinois Central R. R. Fifteen-year Secured Gold.....	6½	July, 1936	66,000.00	108.890166	71,867.51
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 1931-41			
Illinois Central R. R. & Chicago, St. Louis, & New Orleans R. R. Joint First Refund- ing 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 & Re- funding 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	54,000.00	101.031259	54,556.88
Kansas City, Fort Scott & Memphis Ry. Re- funding Mortgage Gold.....	4	Oct., 1936	239,000.00	95.6963974	228,714.39
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	123,000.00	102 253065	125,771.27
Lake Erie & Western R. R. Second Mortgage Gold.....	5	July, 1941	100,000.00	100.	100,000.00
Lake Shore & Michigan Southern Ry. Twenty-five year Debenture Gold.....	4	May, 1931	2,613,000.00	94.461144	2,468,269.71
Lake Shore & Michigan Southern Ry. First Mortgage Gold.....	3½	June, 1997	926,000.00	87.	805,620.00
Louisville & Nashville-Southern Ry. Monon Collateral Joint Fifty-year Gold.....	4	July, 1952	775,000.00	72.	558,000.00

EXHIBIT J—Continued

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THE ROCKEFELLER FOUNDATION

NAME	INTEREST RATE PER CENT	DATE OF MATURITY	AMOUNT	FOUNDATION'S LEDGER VALUE PER CENT	FOUNDATION'S TOTAL LEDGER VALUE
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
Marland Oil Co. Serial Gold Notes Series "D".....	5	June 15, 1932	454,000.00	100.6329867	456,873.76
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	384,000.00	99.9757526	383,906.89
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	50,000.00	100.5	50,250.00
Montreal Light Heat & Power Co. (Lachine Power) Sinking Fund Gold.....	5	Apr., 1933	75,000.00	101.2291733	75,921.88

Morris & Essex R. R. First Refunding Mortgage Gold.....	3 $\frac{1}{2}$	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.....	4 $\frac{1}{2}$	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	140,000.00	101.6875071	142,362.51
New Orleans, Texas, & Mexico Ry. Non-Cumulative Income Gold Series "A".....	5	Oct., 1935	68,000.00	99.140647	67,415.64
New York Central & Hudson River R. R. Thirty-year Debenture Gold.....	4	May, 1934	885,000.00	95.674437	846,718.77
New York Central R. R. Twenty-year Convertible Debenture Gold.....	6	May, 1935	82,000.00	106.364341	87,218.76
New York Central R. R. Equipment Gold..	4 $\frac{1}{2}$	Apr. 15, 1932	100,000.00	100.5	100,500.00
New York Central R. R. Equipment Gold..	4 $\frac{1}{2}$	Apr. 15, 1933	50,000.00	100.5	50,250.00
New York Central R. R. Equipment Gold (Second Trust of 1929).....	4 $\frac{1}{2}$	Dec., 1933	11,000.00	100.5	11,055.00
New York Central R. R. Equipment Gold of 1930.....	4 $\frac{1}{2}$	May 15, 1935	15,000.00	100.674666	15,101.20
New York Central R. R. Equipment Gold of 1930.....	4 $\frac{1}{2}$	May 15, 1936	50,000.00	100.835	50,417.50
New York Central R. R. Equipment Gold of 1930.....	4 $\frac{1}{2}$	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

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 Central R. R.-New York Central Lines Equipment Gold Series of 1923.....	5	June, 1937	\$14,000.00	103.4270714	\$14,479.79
New York, Chicago, & St. Louis R. R. Twenty-five year Debenture Gold.....	4	May, 1931	1,309,000.00	87.06101	1,139,628.75
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 Company Twenty-five year Gold.....	4	Apr., 1931	174,000.00	100.384344	174,668.76
Pennsylvania R. R. General Equipment Trust Certificates Series "D".....	4½	\$30,000 due May 15 each year 1931-41	330,000.00	98.5	325,050.00
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

Pittsburgh, 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	69,000.00	102.018115	70,392.50
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	542,000.00	100.306393	543,660.65
St. Louis, Iron Mountain, & Southern Ry. General Consolidated and Land Grant Gold.....	5	Apr., 1931	595,000.00	97.1540991	578,066.89
St. Louis & San Francisco Ry. General Mortgage Gold.....	5	July, 1931	37,000.00	100.6858108	37,253.75
St. Louis-San Francisco Ry. Equipment Gold Series "CC".....	4	\$50,000 due May 15 each year 1931-43	650,000.00	93.20823	603,853.41
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	2,096,000.00	69.47781	1,456,255.03
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

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., 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 1931-41	1,100,000.00	98.5	1,083,500.00
Southern Pacific Co. Equipment Gold Series "M".....	4½	May, 1932	10,000.00	100.375	10,037.50
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	100.5	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	205,000.00	100.560375	206,148.77
Union Tank Car Co. Equipment Gold.....	4½	\$100,000 due Oct. 1 each year 1931-36	600,000.00 15,000.00 35,000.00	98.54 99.9583333 100.973228	591,240.00 14,993.75 35,340.63
United Drug Co. Serial Gold Notes	5	June, 1949	500,000.00	72.	360,000.00
United Drug Co. Serial Gold Notes	5	June, 1932	394,000.00	100.566634	396,232.54
United Electric Co. of New Jersey First Mortgage Gold.....	4	Oct. 15, 1933-1938	6,661,000.00	96.82635	6,449,603.20
The United Light & Rys. Co. (Maine) First and Refunding Mortgage Gold.....	5	Jan., 1947	3,820,000.00	85.	3,247,000.00
United States of America Fourth Liberty Loan Gold	4½	Feb., 1939	120,000.00	97.8	117,360.00
United States Rubber Co. First and Refunding Mortgage Gold Series "A".....	5	Dec., 1951	450,000.00	83.5	375,750.00
Wabash R. R. Second Mortgage Gold	4	Oct., 1952	4,130,000.00	59.	2,436,700.00
Washington Ry. & Electric Co. Consolidated Mortgage Gold.....	5	Mar., 1946	200,800.00	83.	166,664.00
TOTAL BONDS.....					\$80,875,587.54

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	15.	262,950.00
Chicago City & Connecting Rys. Participation Certificates, Common (No par value).....	10,518	2.	21,036.00
Chicago & Eastern Illinois Ry. 6% Cumulative Preferred.....	3,000	34.	102,000.00
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	7.6666	46,000.00
Denver & Rio Grande Western R. R. Co. 6% Cumulative Preferred.....	3,280	49.	160,720.00
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	68.25	682,500.00
Missouri-Kansas-Texas R. R. Co. 7% Cumulative Preferred, Series "A".....	10,499	41.98228	440,772.00
National Fuel Gas Co. Inc. 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
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	54.56521	313,204.35
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)		
Solar Refining Co. Capital (Par \$25).....	36,304	15.532044	563,875.33
Southern Pipe Line Co. Capital (Par \$10).....	24,945	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
Standard Oil Co. (Ohio) Cumulative 5% Preferred.....	15,000	101.	1,515,000.00
The Standard Oil Co. (of Ohio) Non-Voting Cumulative 7% Preferred.....	17,088	106.	1,811,328.00
The Standard Oil Co. (of 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	27.35	24,341.73

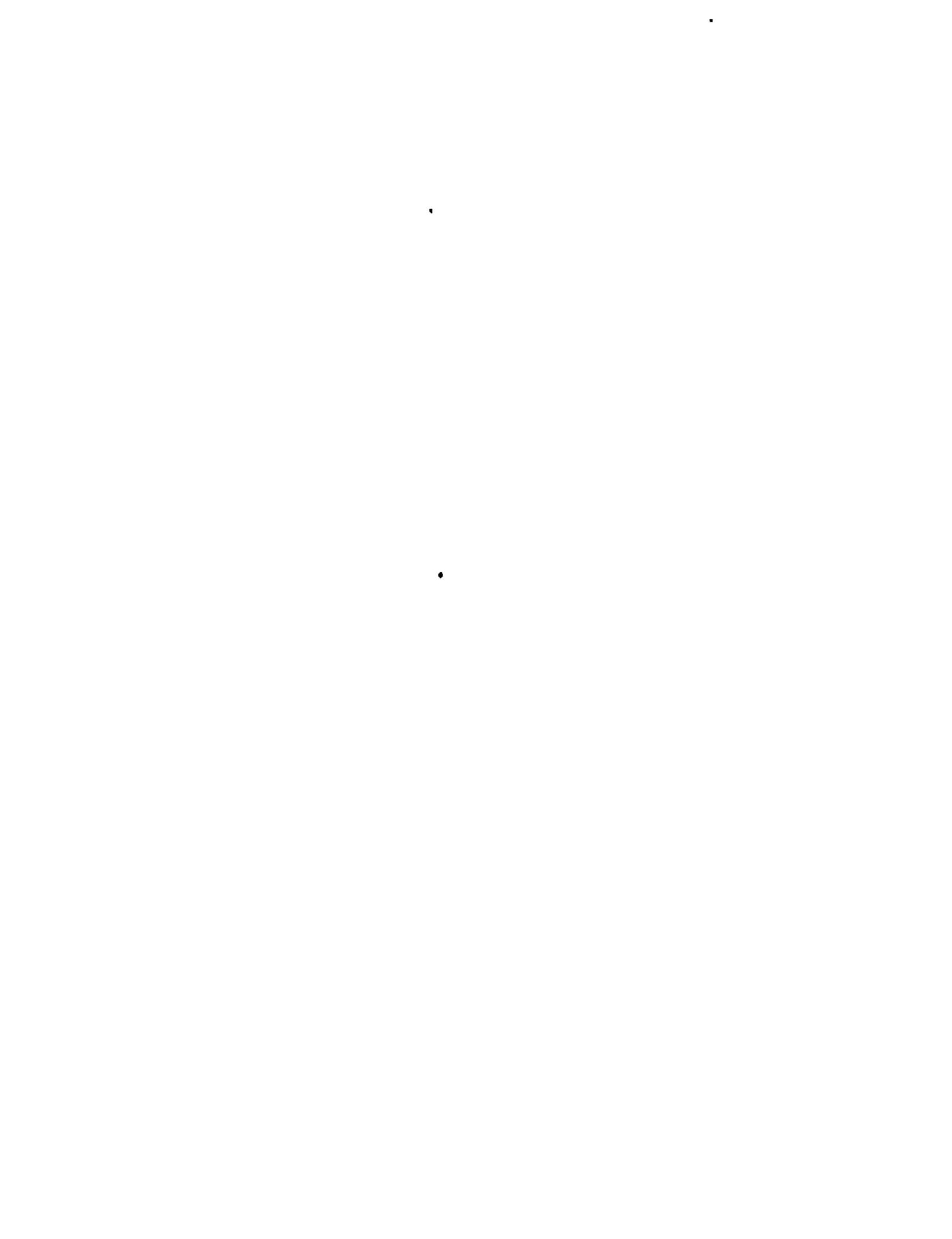
EXHIBIT J—Continued
STOCKS

NAME	NUMBER OF SHARES	FOUNDATION'S LEDGER VALUE PER SHARE	FOUNDATION'S TOTAL LEDGER VALUE
Underwood Elliot Fisher Co. 7% Cumulative Preferred.....	2,300	\$110.	\$ 253,000.00
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	30.705971	878,467.15
Wilson Realty Co. Capital.....	591	100.	59,100.00
TOTAL STOCKS.....			\$112,199,661.85

SUMMARY

Bonds.....	\$80,875,587.54
Stocks.....	112,199,661.85
TOTAL LEDGER VALUE OF INVESTMENTS.....	\$193,075,249.39

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